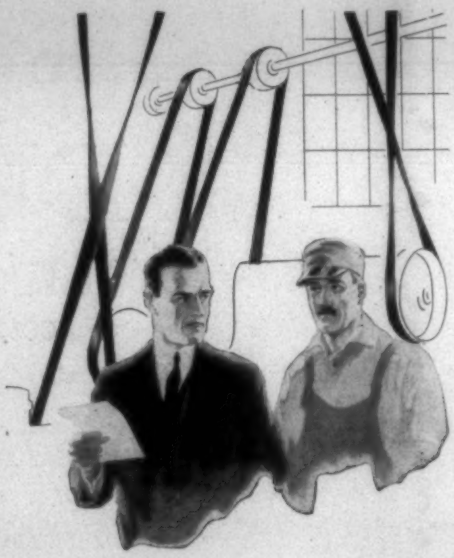
Commerce

SOUTHERN TEXTILE BULLETIN

VOL. 28 | CHARLOTTE, N. C., THURSDAY, JULY 30, 1925 | NUMBER 22

"You've got to do something about Number 11"



"Down for two hours again yesterday! Can't you keep it running and save tying up the whole plant?"

"Sorry, Chief, but no millwright in the world could make *that* belting stand up under the 2000 r.p.m. that we're running on Number 11. It wrecks 'em—wears the life out of 'em."

It will take a Graton & Knight Leather Belt to lick that drive. Graton & Knight Belts don't ask for time out. Each is *standardized* to take the punishment of its own particular work. *Standardized* in hide selection, in tannage and manufacture. This makes belts that are specialists—that can be depended upon for surpassing service on the drives for which they are designed.

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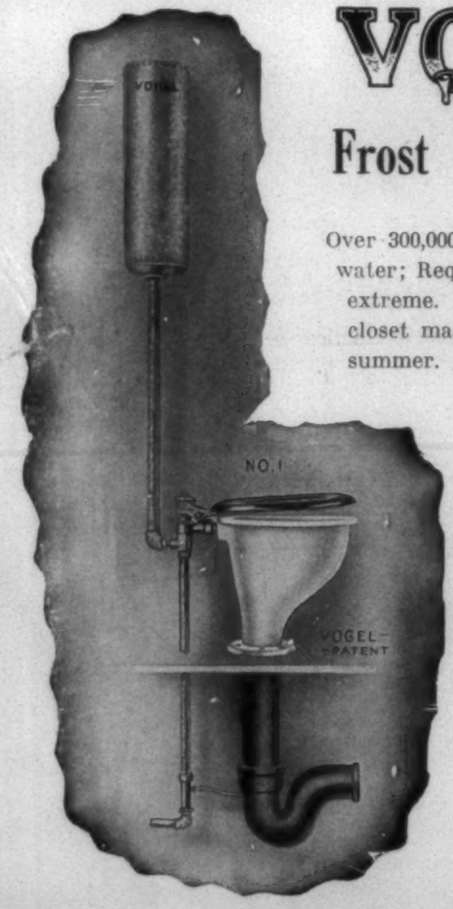

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Whitinsville, Mass.

July 30, 1925

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Yours sincerely,

WHITIN MACHINE WORKS

Mr. J. H. Boyd

AT

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This policy of serving its customers to the utmost has led it to build a branch factory at Greenville, South Carolina, in order to make good service still better.

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Engineers

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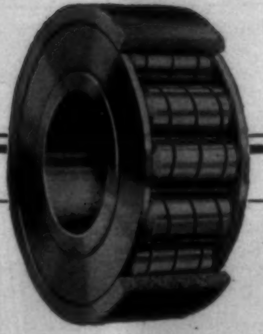

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THE modern loom is a piece of fine mechanical equipment. It is worthy of bearings that will guard it against depreciation and loss of effectiveness.

Such is the function of Hyatt roller bearings. On loom crank, cam and rocker shafts they provide a rolling motion and positive lubrication that results in easy running and the virtual elimination of bearing wear.

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Reliable performance from the day installed and a high degree of efficiency, maintained steadily year-in and year-out.

A ten year record is the proof of these statements. When you specify Hyatt bearings in your looms you are not experimenting—you are demanding the benefit of the most advanced development in loom building.

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NEWARK DETROIT CHICAGO SAN FRANCISCO
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[Bulletin No. 2100 contains the interesting story of Hyatt bearings on looms and other textile machinery. Write for your copy.]

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The modern drive for drawing frames is an individual motor with suitable control for each frame; or a group of frames arranged in line, with their shafts coupled together, and driven by a single motor.

Individual motor drive of drawing frames obtains and *maintains uniform speed.*

In addition, motors mean better working conditions—cleanliness, less noise and confusion, less danger to life and limb.

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72-38

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SOUTHERN
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VOLUME 28 CHARLOTTE, N. C., THURSDAY, JULY 30, 1925 NUMBER 22

Research Work in the Cotton Industry

SINCE the last review of the work of the Shirley Institute, a critical examination has been published of the literature on cotton growing and of meteorological records, which shows that not half of the land in the world with climatic suitable for cultivating cotton under rainfall conditions is as yet utilized, and that the most promising regions within the British Empire are Southern Sudan, Northern Nigeria, the valleys of the Limpopo and Zambesi, South Africa, and the 200-mile strip of coast on the east and north of Australia. In other words, the capacities of the world and the British Empire to grow cotton of the American type are larger than has been imagined, according to J. C. Withers in Manchester (Eng.) Guardian.

An important study of the cytology of the cotton plant has been described. This is that science of the life history and structure of living cells which lies at the root of plant breeding, and explains in what circumstances plants may be hybridized and why hybrid plants are often sterile. The discovery has been made of a fundamental difference between the cottons of the New World and of the Old, which explains why plant breeders have hitherto failed to cross American cotton with Indian or Chinese. The nucleus of each living cell divides in the course of its history into "chromosomes," which carry the hereditable characteristics of the plant. The number of the chromosomes is all important; in all the cottons of Sea Island, American, or Egyptian origin so far examined it is 26, but in the Indian and Chinese types 13.

In the many discussions on the practice of ratooning, which appeals strongly to the Australian and South African growers, no one seemed to have compared the dimensions and strength of some cotton grown from seed with with those of a sample produced in the same locality from plants which had been cut back the previous season. Such a test has at last been performed on cotton from Queensland, and the evidence proves unfavorable to the ratooned cotton. Whether ratooned cotton in Queensland would be better another season or whether the practice would be more successful in other parts of the world remains to be proved, but so far the balance of evidence is against this method of cultivation.

Comparative tests by the special methods of the Shirley Institute have been made on several variations in the opening and spinning processes, and many points which have been hotly debated by spinners for years seem at last to have been settled. For example, it has been proved that repeated scutching does not appreciably damage the cotton, and the process can, therefore, be judged solely on its cleaning action. Furthermore, a number of combinations of bale breakers, openers, and scutchers used in different mills, all representing good Lancashire practice, were tested on American, Queensland, Sakel., and Sea Island cotton, and found to be equally harmless to the staple of the raw material. In mule spinning the practice of a reasonable amount of increased production by adopting "roller delivery motion" is also shown to be justiable; for all practical purposes, the yarn produced is just as good as without roller motion. Various systems of rollers used in ring spinning have also been tested, some with light top middle rollers and some with heavy, and others with the back and middle rollers united by leather bands. Here the evidence is in favor of the light roller. Yarns spun on various high-draft systems have been compared with low-draft yarn on several occasions, and the fact established that for all trade purposes high drafting by either of the systems in common use produces just as good a yarn as the older practice. Altogether, it seems that common opening methods are harmless to the strength and staple of cotton, while at the other end of the spinning process a large variety of alternatives on the spinning frame is permissible without affecting the regularity in twist and strength of the yarn produced. The cause of the great irregularities which do undoubtedly exist even in the best yarn must therefore be sought in the intermediate operations of spinning, and these are now being examined by similar methods of testing.

Sizing and Bleaching.

On the assumption that the efficiency of the sizing operation depends largely on the tenacity of the film of starch which binds the cotton hairs together in a warp thread, experiments have been made on the tensile strength of films made by drying starch pastes as commonly founded in size-becks. The results show that starch films are more brittle in dry atmospheres than in moist, and that maize, farina, and sago give equally strong films. Some processes which are commonly used in size preparation, such as partial dextrinization or oxidation of the starch, or the addition of soap, give weaker films. "Softeners" like glycerin, tallow, or castor oil only weaken the film when present to the extent of at least 5 per cent, but they have the curious effect of making the otherwise transparent starch films opaque. It appears, therefore, that pure starch pastes give the maximum strength in the body of the adhesive, and it now remains to be tested what other desirable qualities in a sized warp are introduced by the numerous trade practices which depart from the use of cooked starch paste only. Important factors in the sizing operation itself are certainly the readiness with which the yarn is wetted and the extent to which it is penetrated by the liquid size. Some work on these problems has recently been published which shows that most ordinary sizing preparations wet cotton imperfectly, and that to obtain immediate wetting on plunging a yarn into size relatively large quantities of such assistants as soap, cyclohexanol, or Turkey red oil must be added. Effective wetting is greatly helped, however, by keeping the size boiling; the temperature is an important factor which should be carefully controlled.

Bleaching Troubles.

One of the main troubles in bleaching is the risk of oxidation of the cotton cellulose, with possible weakening of the material, loss of weight in scouring, and the production of dark patches or streaks in dyeing. This oxidation, in its early stages as it might occur in bleaching, has been thoroughly examined during the past year, and the fact revealed that the products formed—the so-called "oxycelluloses"—range between two extreme types. One is characterized by a tendency to "yellow" on storage, or heating, or boiling with soda, and by excessive loss of weight in scouring, and a measure of its presence is conveniently recorded as the "Copper Number." The other type has a great affinity for basic dyes and is evaluated as a "Methylene Blue absorption." These numbers, therefore, give useful hints as to the permanence of white to be expected of the bleached cotton, on the one hand, and as to the level dyeing properties on the other. Taken together, they serve as excellent control tests of the bleaching operation. Whether one type of oxycellulose or the other is formed predominantly depends on the degree of acidity or alkalinity of the bleach liquor; if this leans toward the alkaline the product has the high Methylene Blue absorption, if towards the acid the Copper Number is high. The range of acidity or alkalinity over which the extreme fluctuations occur is very narrow, and it is not at all uncommon to find a bleach liquor in the course of one operation veering from one limit to the other.

This fluctuation in the nature of the bleach liquor is even more emphatic in its effects in the bleaching of goods woven with colored stripes, especially with certain dyes. For example, Indanthrene Blue is unaffected by neutral hypochlorite liquors, but turns green if the bleach is ever so slightly acid, and Cibanone Black becomes pink with very slightly acbid hypochlorites. Given a simple works method for checking these minute fluctuations in the condition of the bleach liquor, it should be possible to make even this difficult type of bleaching a simple, exact operation.

It has been recognized for some time that the lustre produced by mercerization is due to the swelling of the single cotton hairs, so that they reflect light from their surfaces more advantageously. The swelling is accompanied by shrinkage, which in practice is avoided by stretching the material while still wet and in the plastic condition imposed on it by immersion in the caustic alkali. The tension also enhances the lustre by compressing the almost circular hairs tightly together until they become more or less polygonal in section and present flattened, mirror-like surfaces to the light.

Problems of mercerization have been studied at the Shirley Institute from three angles—(1) the effects of the different caustic alkalis; (2) the lustre produced in its relation to twist in the yarn; and (3) the microscopic changes in the unit, the single cotton hair. On the first point it has been shown that the commonest and cheapest alkali, caustic soda, has about twice the capacity for swelling cotton possessed by the other alkalis. Why this is so is a considerable scientific puzzle, but it is a happy circumstance for the trade.

A photometric method for the precise comparison of lustre has been developed which can be applied to loose cotton, yarns, or fabrics, so that all the factors influencing lustre, such as calendering, schreinering, mercerizing, gassing, etc., can be studied. It has already been shown that in doubling yarns for lustre purposes maximum lustre is obtained when the cotton hairs lie parallel to the axis of the yarn, which condition is reached when the doubling twist is seven-tenths of the twist originally in the single yarns. Yarns are conveniently compared with the light falling on them at an angle of 45 degrees to their lengths, for the numerical differences are greatest at this point. The efficiency of different processes of yarn mercerization can thus be recorded in figures, one being returned as, say, 10 per cent better in its effect than another.

One important point seems to have been settled by this work on yarns. It has often been argued that mercerization takes out some of the irregularities in yarn, but this is not so; though intrinsically more lustrous, a mercerized yarn is not more uniform in lustre or in twist than its raw, doubled yarn.

The work on the microscopic changes in the cotton hair during mercerization without tension has shown a most interesting connection between the variations in shapes and dimensions suffered by the hair in the boll just after this bursts and when the commercial hair is immersed in caustic soda. The mature hair just before the boll opens is tubular and almost a stout ellipse in section, and consists of a cuticle of non-cellulose material enclosing a tube of cellulose, which in turn surrounds the lumen or central canal. Within a very short time after the boll bursts the hair collapses and becomes convoluted; the section has a most irregular form, and its dimensions are difficult to define or measure, whilst the lumen becomes almost a line. When immersed in caustic soda as used for mercerizing, the hair returns to the elliptical form, but the cellulose swells inward and almost blots out the lumen. On washing with water, the swollen hair shrinks, somewhat, but retains its shape, which persists on drying. The important discovery has been made that the hair swollen in caustic soda has the same dimensions as the mature hair had in the boll before collapsing. In this form its diameter is more determinate, and since this is exactly the same as that of the uncollapsed hair it is justifiable to use it for the comparison of various cottons averages of the widths measured on cross-sections of the hairs in caustic soda. This is most helpful in scientific grading, but dealing with the practice of mercerization, however, the discovery shows that there is a limit to the swelling of cotton by caustic soda, a limit imposed by nature in the cuticle. If a mature, uncollapsed hair from the boll is placed in caustic soda the cellulose swells inward till the lumen is almost blotted out, but the cuticle prevents it from swelling outward and making the hair appear bigger. Indeed, the cuticle suffers considerable stress by the pressure exerted from inside. This has been shown by snicking a cotton hair on one side with a tiny razor and then placing it in caustic soda. The damaged cuticle burst open at the weakened point and the swollen cellulose bulged out. The structure of the cuticle is probably the most interesting feature of the cotton hair; it is a sheath which can contract and extend in length, shrink or expand in girth, following the changes in size of the cellulose deposited inside it, and yet imposing a very powerful restraint to the swelling of which the cellulose itself is capable.

Moisture Content of Cotton.

The moisture content of cotton has been determined with a high degree of accuracy for atmospheric conditions ranging from perfectly dry to perfectly humid, and from cold to above the boiling point of water. The interesting fact has been revealed that when cotton is placed in very humid air and heated it begins to suffer an internal change in structure at about 140 degrees F., which makes it easier for carrying out any process depending for its success on the swollen state of the cellulose, such as the many mechanical finishing processes. The actual moisture content of cotton seems to be at a maximum in an atmosphere at about 100 per cent relative humidity and 212 degrees F. These are the best conditions to secure, therefore, in the steamer used in calico printing. The moisture regain of mercerized cotton is greater than that of the unmercerized by a ratio which is constant at any particular humidity. The ratio, however, varies with the degree of mercerization, being greatest when the cotton is thoroughly penetrated by the most effective caustic alkali solution. Deviations from the maximum ratio will obviously throw light on the efficiency of a given mercerization process.

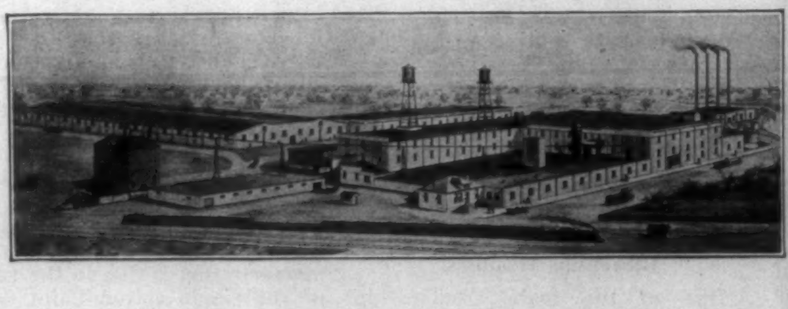
The mechanical properties of cotton are affected by humidity, not so much directly because of the moisture in the air as indirectly because of the moisture actually held by the cotton itself. It has been found, for example, that the rigidity of the cotton hair—that is, its resistance to twisting—is brought down by half for every 10 per cent increase in moisture content.

Another report has been issued embodying the results of an examination of several cases of mildewed cops and fabrics, and a preliminary series of tests on the efficiency of the antiseptics used by the industry. It is shown again that our present knowledge of these antiseptics is wholly inadequate. The effective proportions recommended by different authorities vary within extraordinary limits, but in the experience of the staff at the Shirley Institute not even the highest proportions of zinc chloride, carbolic acid, calicylic acid, or sodium silico-fluoride used by the trade will quite prevent the development of some one or other of the numerous mildews which arrive in the mills with the cotton bales or are picked up in the course of manufacture. Other antiseptics are being tested, but in the meantime the value of cleanliness in yarn conditioning and other stores cannot be too strongly urged, while every effort should be made to keep the moisture content of goods from the tape frame to the export bale below 8 per cent.

The great development of the knitting industry is imposing unusual demands on the trade for yarns which are perfectly regular in counts and twist and unifromly mercerized, and certainly it is found

(Continued on Page 34)

VICTOR MILL STARCH – The Weaver's Friend



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ONE of the many possible sources of trouble in the dye house is the use of improper alkalies—special alkali mixtures which are seldom uniform in strength and often of unknown or uncertain composition.

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In many cases where the so-called modified sodas are being used, the change to straight 58 per cent Soda Ash also brings with it an immediate and substantial saving in alkali costs. For example, in preparing sulphur colors one pound of Soda Ash will do the same work as two pounds of modified soda. The desired results are obtained with half as much straight 58 per cent Soda Ash and at less than half the previous cost.

Our technical staff will be glad to demonstrate these facts at any time to interested textile men.

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EAGLE THISTLE PRODUCTS

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Soda Ash ~ Bleaching Powder
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TIGHT BINDING

The Reduction of Vat Colors

By Malcolm MacKenzie, of Cramerton (N. C.) Mills, Inc., before Southern Section, American Association Textile Chemists and Colorists.

THE vat dyestuffs are so named because they, being insoluble compounds, and having the same dyeing characteristics as indigo, have to be reduced to a leuco state before they are soluble and before they have any affinity for the fibre; and in olden times indigo was reduced in a deep narrow vat, the depth to allow for the sludge which would settle out from the reducing agents used, and the narrowness to prevent oxidation of the dyeing liquor. Hence the popular name "vat colors."

Natural indigo, the first of the so-called vat colors, has been in use since long before the Christian Era, having been used in Egypt and India, although it was not introduced into Europe until the sixteenth century. It has always been considered one of the most important and valuable of the coloring matters, on account of its fastness to light and washing, beauty of shade, as well as its low cost; there is in all probability, more indigo used than any other blue dyestuff.

Natural indigo at its best was far from being satisfactory; there were so many different types, each varying in its indigotin content and its purity. Thus, Java indigo yielded from 65 to 75 per cent indigotin, Bengal indigo from 60 to 65 per cent, Madras indigo from 30 to 40 per cent. There were many other grades, but these were perhaps the best known. Bengal indigo, while having a lower indigotin yield than Java, was preferred by most users as it seemed to be a purer product.

Research was begun by Dr. Baeyer of Munich, in 1865, to make indigo synthetically; this he accomplished after 20 years' endeavor, but the cost was prohibitive, his product costing in the neighborhood of $25 per pound to produce. The large dyestuff manufacturers of Germany worked on the problem until it was finally put on the market in 1896. The artificial product readily supplanted the natural indigo, because it was so much cheaper, of a standard strength, and could be procured in a convenient paste which eliminated the necessity and inconvenience of all grinding. Synthetic indigo is identically of the same chemical construction as the natural product, in fact, it is impossible to detect any difference in them when testing out dyed material. Indigo itself is an insoluble dyestuff and cannot be applied to the fibre until it has been reduced or converted to its leuco state; then it is not only soluble, but has an affinity for the fibre and goes on readily and upon striking the air is readily oxidized back to its insoluble state. In this way an insoluble color is precipitated upon the fibre that is remarkably fast. The reduction may be carried out by several different methods.

The Fermentation Vat.

The fermentation vat was perhaps the first method used for reducing indigo. The grains, starches or syrups used in fermenting formed nascent hydrogen, converting the indigo into indigo white and the caustic potash present readily dissolved it. This vat was very intricate and hard to manipulate, so is rarely used today except on certain export trade where the goods are required to have the peculiar odor imparted by this vat.

The Copperas Vat.

The copperas vat was made up with quicklime, copperas and indigo; the lime acting upon the ferrous sulphate broke it up into calcium sulphate and ferrous hydrate; the latter decomposed the water in the vat, liberating hydrogen which reduced the indigo. A vat of this type was usually set the night before and allowed to reduce over night before using. A formula follows:

50—lbs. indigo 20 per cent paste.
40—lbs. copperas.
50—lbs. lime.

The lime is made into a milk o lime with an addition of water, the added to the vat. The indigo is the added and the vat is well stirre before adding the copperas, whic has been previously dissolved i warm water. A vat is in good con-dition when, after the sediment ha settled, the surface is covered wit a coppery blue film or "flurry," an thick dark blue veins are forme upon raking; the color of the va should then be of a brownish yello or amber appearance. If the vat i greenish, it shows that it has no reduced enough and more coppera should be added; if too blue, it i not alkaline enough and more lim is needed. This type of vat was no in general favor, as it had a grea deal of sediment and required mos careful watching.

The Lime Zinc Vat.

The lime zinc vat was very similar to the copperas vat in its working, except that there was less sediment and it was much more easil handled. Zinc in the presence o lime and indigo, decomposes wate and combines with it oxygen; th liberated hydrogen reduces the indigo which is at once dissolved b the excess of lime present. A formula follows:

(Continued on Page 14)

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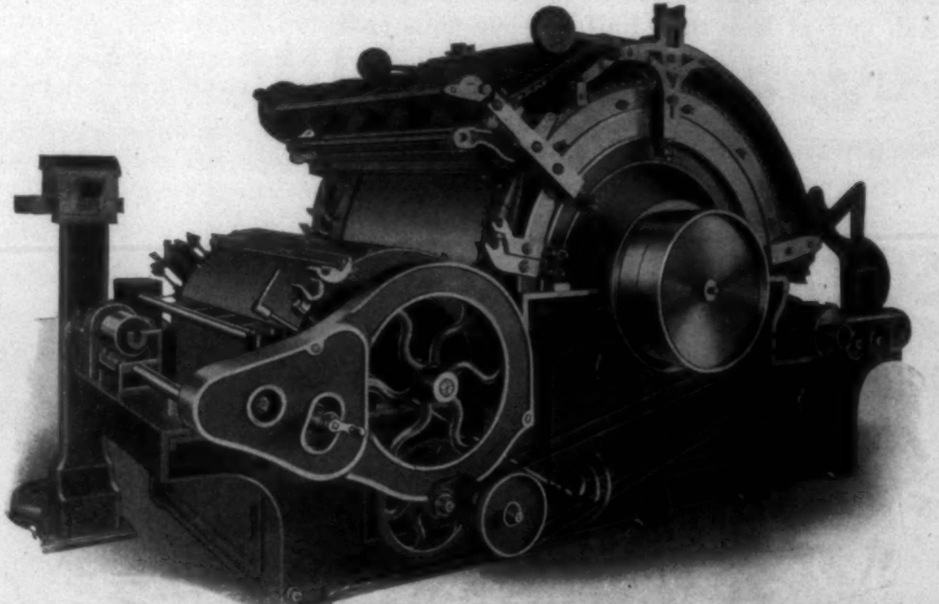

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Send for Special Bulletin with List of Users

COTTON MACHINERY

HOUGHTON

Lubrication At Less Than Half The Cost

A Recollection

by Chas. E. Carpenter,

Near Editor

DO you remember when they used to run the old Sawyer spindles? If you obtained 50 spindles to the h.p. you were doing well in those days. For every drop of spindle oil that actually lubricated there were ten drops retarding motion by adhesiveness and about as many more distributing themselves on the floor, machinery and fabric. I think at one time we calculated that as our customers changed from the old type to the new high-speed bath type, their purchase of spindle oils was reduced 90 per cent, per unit of yarn produced.

Most of the economy in lubrication was effected by the fact that the bath oiling system permitted the use of the best lubricating oil, inasmuch as the bath held the oil in place, and the lubricating properties of the oil did not have to be sacrificed for viscosity, or adhesiveness. The bath eliminated all waste. Of course there was but little economy effected by using the same oil on the new type, as was used on the old. Which reminds me, it is very strange that even to this day, there are some mills using the same old paraffine oils on their high-speed spindles, thereby literally throwing money away. My recollection is that on mediums, paraffine oil will give less than 75 spindles per h.p. and Houghton's High-Speed Spindle Oil about 123 spindles per h.p.

Unfortunately it is not practical to run most lubricated parts in an oil bath, and therefore there is no mechanical device for holding the desired quantity of oil on to the majority of textile machinery bearings, but HOUGHTON'S ABSORBED OILS accomplish practically the same results in another way. Instead of robbing an oil of all its best lubricating properties, in order to impart to it the properties which will make it stick to the bearing, the sticking properties of the oil are ignored, and the best lubricating oil possible is selected; then this oil is absorbed in another oil, which possesses the necessary sticking properties, and the film strength which are to keep the two metal surfaces from coming in contact. Thus we have the best lubricating oil held in position, and the supply increases or decreases as the friction increases or decreases the pressure on the film oil.

THERE IS NO OIL DRIP, and therefore oil stains from drip are entirely eliminated.

The cost of lubrication is reduced 50 per cent plus.

If you believe that this is worth investigating, let us know, and we will have a Houghton Man call and make everything perfectly plain to you.

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Oils and Leathers for the Textile Industry

Forecast Crop of 13,588,000 Bales

Washington, July 23.—Based on data furnished by crop correspondents, field statisticians, and co-operating State boards of agriculture, the Crop Reporting Board of the United States Department of Agriculture today forecasted the condition of the cotton crop as of July 16, at 70.4 per cent of normal, and an indicated total production for 1925 and 1926 of about 13,588,000 bales of 500 pounds gross.

Deficiency in moisture in Texas and unfavorable conditions in Oklahoma were the principal contributing factors to the prevailing poor conditions in the South and Southwest. In connection with the report, the board issued the following statement:

"A decline of about 751,000 bales between June 25 and July 16 is indicated by the July 16 condition of the cotton crop for the United States.

"Most of the decline in prospective production took place in Texas and Oklahoma, and was caused by continued extreme dry weather and high temperatures. Deficient moisture has been holdnig the crop in check in many sections of these two States. The important central and Southern portions of Texas have suffered extreme injury.

Much Cotton Has Ddied.

In the droughth stricken counties of the South center the cotton has received but little benefit from scattered showers, and much of it has died.

"With a good general rain over the region which last year produced 1,863,000 bales, and whose condition averages below 50 per cent, it could improve rapidly.

"However, a large percentage of the area is bare of plants and beyond power to respond. Of the 62 counties whose condition lies below 50 per cent, there are 28 below 30 per cent, these having produced 861,000 bales in 1924. Conditions in the remaining districts of Texas are better, averaging about 70 per cent.

"In Oklahoma, conditions have been very unfavorable to the growing of cotton since June 25. With the exception of local areas, the entire crop is suffering from lack of rainfall. The droughth has been severest in the Southwest, South Central and Southeastern portions of the State. Extremely hot weather has prevailed, and temperatures have been above normal during practically the entire time since June 25.

Temperatures Over 100.

"Nearly every day the temperatures have gone above 100, especially in the South and Southwest, causing the plants to bloom in the top, stunting growth and causing shedding.

"While local showers have fallen in practically all parts of the State, many localities were completely missed by these showers, and conditions are extremely spotted, even in the same counties. As a rule weevils are much fewer than last year, and practically zero when compared with the usual number.

"In the Piedmont sections of North Carolina, South Carolina, and northern Georgia, drouth has been holding the crop in check, but in the other portions of these States the outlook is generally favorable.

"In Alabama and Mississippi, weather conditions generally have favored the growth of the crop, and with the exception of a few local areas the crop is blooming and fruiting well. Weevil infestation here is quite spotted and increasing somewhat, though it is not yet serious.

"Over the belt as a whole, owing to the scattered distribution of the rainfall, conditions are much more spotted than in a usual year."

Foreign Crop Prospects.

A report of the latest available information since July 2 as to cotton production in foreign countries compiled by the foreign service of the Bureau of Agricultural Economics is as follows:

"In Russia the condition is favorable, and the production is forecast at 737,000 bales of 478 pounds net, an increase of about 60 per cent over last year.

"The crop of upper Egypt is progressing well, and picking is about ready to begin, while in the delta, conditions vary widely and are not so favorable, the crop being late.

"The monsoon in India began early, and has been active and well distributed.

Cotton Spinning Curtailed in June

Washington. — Curtailment of 11 per cent over a period of two months in the cotton spinning industry is indicated in statistics made public by the Bureau of the Census, Department of Commerce.

This is well borne out, it is said, by the figures on cotton consumption which dropped from a total of 597,104 bales in April to 531,471 bales in May and to 493,765 bales in June, for which today's report is issued. There was a 20 per cent reduction in consumption.

According to preliminary figures, 37,858,211 cotton spinning spindles were in place in the United States on June 30, of which 32,309,896 were operated at some time during the month, compared with 33,147,632 for May.

Activity during June was lowest in the New England States where the average for the month was 142 hours per spindle in place, the total number of spindles in place of June 30 being 18,376,816, of which 14,884,958 were active at some time during the month.

The average number of active spindle hours was 7,690,315,823.

The average number of spindles operated during June was 33,688,084 or at 89 per cent capacity on a single shift basis. This compares with 93.6 for May. The average number of active spindle hours per spindle in place for the month was 203.

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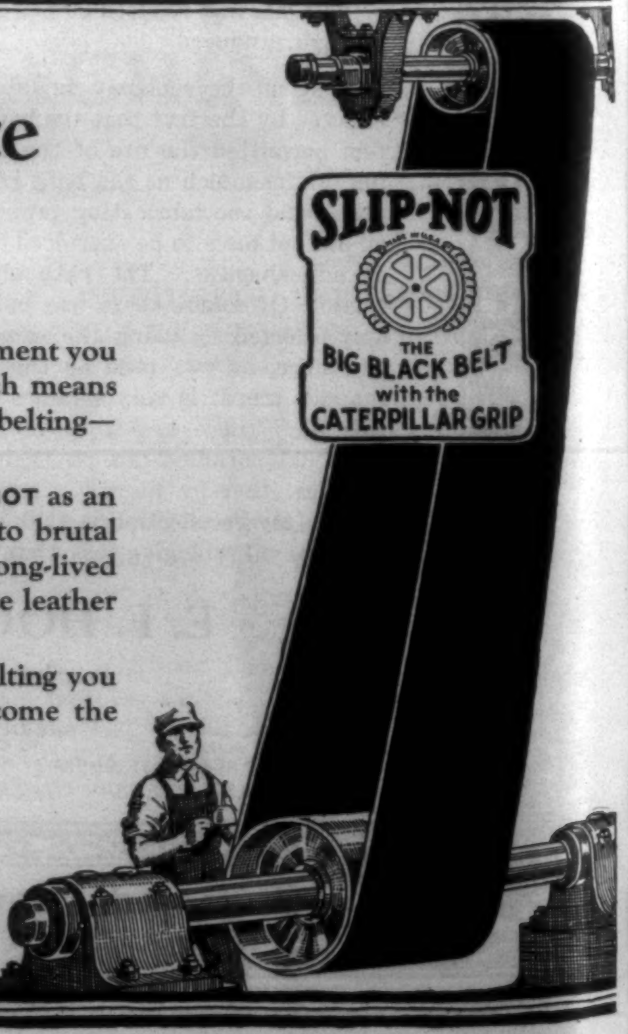

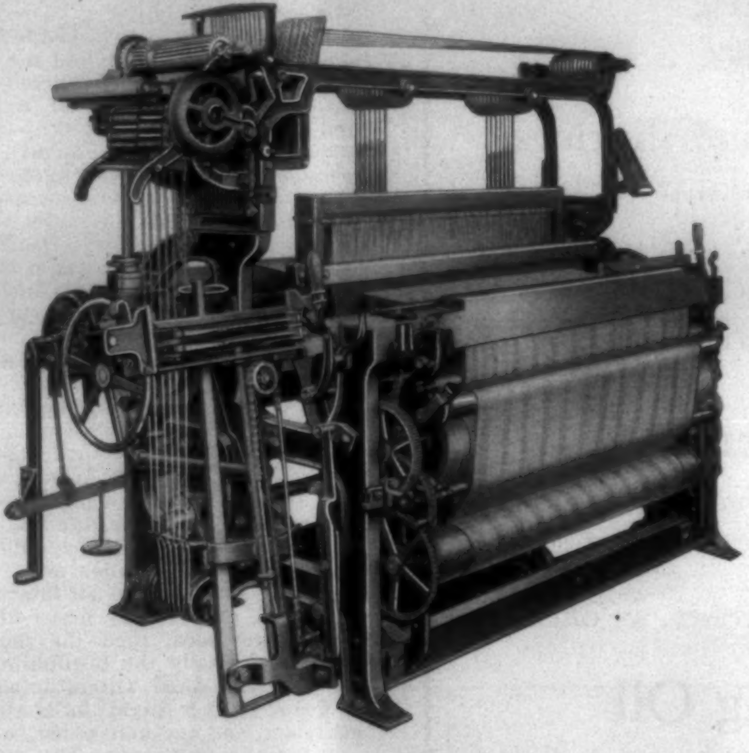

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San Francisco

The Reduction of Vat Colors

(Continued from Page 10)

50—lbs. Indigo 20 per cent paste.
6—lbs. Zinc.
20—lbs. Lime.

The lime should be slacked before adding to the vat; then add the indigo. The zinc is well stirred up with about five gallons of water, and the vat well stirred up and allowed to reduce overnight; an occasional stirring will help to make the reduction more complete. The appearance of the vat is very similar to the copperas method. Great care should be taken that there is not an excess of zinc, as this would cause the vat to be muddy and frothy.

The Zinc Bisulphite Soda Vat.

This vat is in quite common use today in many of the smaller mills in the Carolinas, where short chain warps are dyed. The main disadvantage is the amount of sediment that it contains, although this can easily be overcome by filtering the hydrosulphite liquid before adding to the vat. The smaller mills referred to, however, are not filtering; the vat is prepared by first adding the caustic soda, then the indigo paste, and finally the bisulphite of soda and zinc dust. Often the color is reduced over night in a small container, and one-half added to the vat for the first run. The other half is added for the second run, and then the warps are given a free run and well washed.

The Hydrosulphite Vat.

Since the advent of sodium hydrosulphite as a powder, this has largely superseded all other reducing agents owing to its stability and cleanliness in handling.

The most modern method of dyeing indigo today is on long chain warps in a continuous dyeing machine, where the warps are taken from the shell beam, dyed, dried and coiled ready for beaming, all in one operation. This method was originated by the Cocker Machine & Foundry Co., of Gastonia, N. C., and has been installed in many of the most modern plants. One of the new mills in North Carolina has recently installed a two-unit equipment with a capacity for dyeing 38,000 pounds of indigo dyed yarn per day, each machine dyeing two sets daily, each set consisting of 25 warps, each warp weighing 380 pounds, a total of 9,500 pounds.

The dyeing system proper consists of a series of seven boxes. The first is a boil-out box, the second for rinsing, the next three are dyeing vats, and the last two are for washing and softening. While there are only three vats, the yarn is given six separate immersions with a skying in between, i. e., the yarn is carried half way through the first vat, then run through a pair of squeeze rolls and skied on a series of rolls built above the machine, then brought back and carried through the second half of the first vat and again skied. This operation is repeated again through the second and third vat. At a speed of 20 yards per minute, the yarn is in the dye liquor 1¼ minutes per immersion, or a total actual dyeing time of 7½ minutes; the skying intervals are of 2 minutes each with the exception of the last, which is of three, or allowing 12 minutes for oxidation, so that a set of 6,000 yards can be dyed in five hours.

The third vat has twice as much dyestuff in it as either the first or second; for instance, to dye a 10 per cent shade, sufficient color is put into the first and second vat to dye a 2½ per cent shade; the last vat being twice as strong would have been sufficient color to dye a 5 per cent shade, so that a passage through the three vats would be the equivalent of 10 per cent dyeing. With the vats so arranged different strength dyeing can be made at the same time, by simply skipping over the vats that are not to be used, and going direct to the washing and softening boxes at the rear of the machine. To start a series of vats for a 10 per cent shade, the following amounts of material are used based on a vat with the capacity of 3,000 gallons:

1392 lbs. Indigo 20 per cent paste.
236 lbs. Ground Caustic or 17 per cent of amount of Indigo used.
181—lbs. Hydrosulphite or 13 per cent of amount of Indigo used.

The above amounts are used on the first and second vats, and each should give the equivalent of a 2½ per cent dyeing; the third and last vat has exactly twice as much of each ingredient and would equal a 5 per cent shade. All caustic and hydrosulphite used should be previously dissolved, but all the figures here given are for the dry chemicals. A stock solution is also made up of—

500—lbs. Indigo 20 per cent paste.
85—lbs. Ground Caustic.
65—lbs. Hydrosulphite powder.

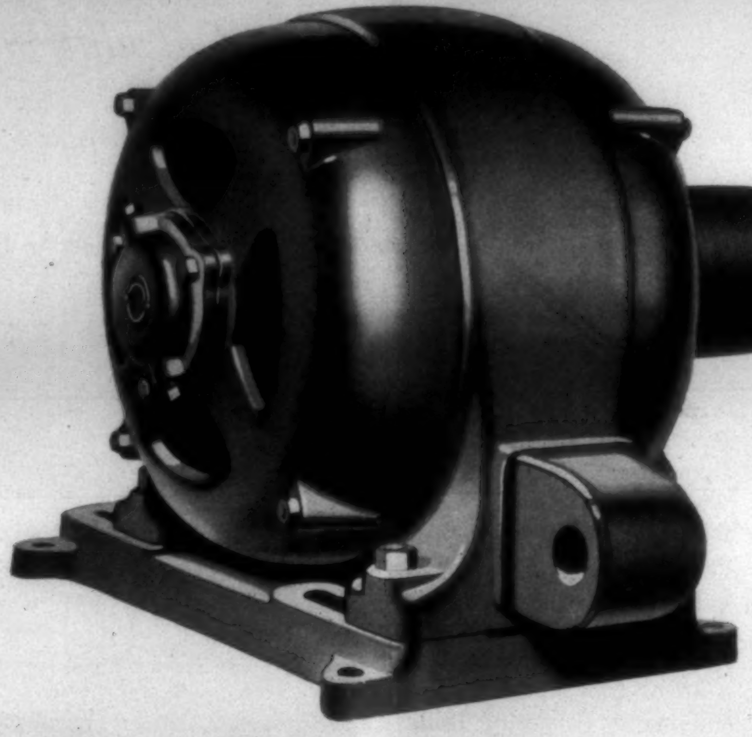
This can be reduced in 250 gallons, so that each gallon contains 2 pounds of indigo. A "springer solution" of caustic and hydrosulphite is also made. The bath then being ready to start, the indigo is fed on every 15 minutes, and with it an amount of this springer solution which is composed of 12½ per cent hydrosulphite and 14 per cent caustic based on the amount of indigo added to the vats. Thus, while 17 per cent of caustic and 13 per cent of hydrosulphite will reduce 100 pounds of indigo in the starch vat, an addition of 14 per cent of caustic and 12½ per cent of hydrosulphite has to be made to the bath during the dyeing so that the actual amounts used are 31 per cent of caustic and 25½ per cent of hydrosulphite on the indigo used.

The older method was to dye in a single vat, giving four runs, or to use a series of two vats so arranged that the yarn had a skying between the first and second vat; the yarn was then given two runs.

The indigo is previously reduced in a large tank, using 250 gallons for 500 pounds indigo paste, 125 pounds caustic or 25 per cent of the amount of indigo used, and 80 pounds hydrosulphite or 16 per cent of the amount of indigo used. Each gallon contains 2 pounds of indigo.

Each vat has a capacity of 1,600 gallons, and to set for a 10 per cent shade; 110 gallons of the reduced

(Continued on Page 31)



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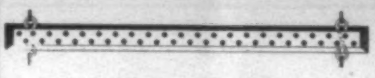

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Cotton Mill Processes and Calculations

By D. A. Tompkins.

Copy Revised for Third Edition.

(Continued from Last Week)

Specifications.

45. Following is a sample blank specification sheet to be filled out in ordering cards:

Number of Cards ....
Number right hand (standing at doffer) ....
Number left hand ....
Width of face ....
Diameter of Doffer (on the iron) ....
Diameter of Can ....
Weight of Lap ....
Weight of Sliver ....
Production required per 10 hours ....
Belted from above or below ....
Size driving pulleys (20 x 3 standard) ....
Speed driving pulleys ....
Kind of Cloth preferred ....
Number of Stripping Rolls ....
Number of Burnishing Rolls ....
Number Traverse Grinders ....
Number Long Grinders ....
Shipping Instructions ....
Maker ....
Purchaser ....
Price ....
Terms ....
Remarks ....

CHAPTER IV.

COMBING

46. Until within the past two years, the process of combing cotton in the United States has been confined to staples of not less than 1¼ inch. Lately some new machines are being introduced which are intended for use with shorter fibres, at present there is one type of comber recommended for producing a high production of combed sliver from grades of cotton of ⅞ inch to 3-16 inch staple. Hence the subject is becoming of wider interest.

47. The object of combing is to sort out fibres of cotton to a fairly uniform length. Fibres of cotton as found in nature, or as purchased in the market, have varying lengths. Cotton which is commercially graded as having 1¼ inch to 1⅜. The comber may be set to sort out and reject all (or any desired per cent of) fibre below 1¼, or below any other specified length. This treatment of cotton conduces to much evener and smoother yarn.

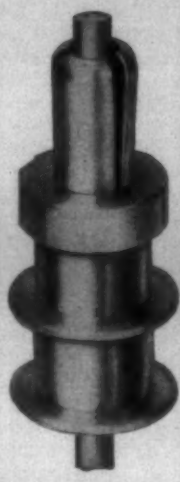
48. All combers receive their stock in the form of narrow laps or "cheeses," from 8 to 14 inches in width, usually about 11¾ inches.

These laps are made from card slivers by special machines called sliver lap and ribbon lap machines.

The sliver lap machine receives from 16 to 24 cans of card sliver, and spreads them out in the shape of a lap. This machine usually has a draft of 2 to 3. It delivers a lap weighing about 400 grains per yard. This lap may be fed direct to

(Continued on Page 27)

Look Over Your Spindles Now And Be Prepared



Get 8 to 10% more yarn on your bobbins by equipping your spindles with our Patented Clutch.

Don't run your spindles with worn out whorls cut in by bands, which changes the speed of your spindles, therefore making uneven yarn.

Let us change your whorls on spindles, repoint and restraighten same, and save you money.

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Veneer Packing Cases

They are lighter and stronger, made of perfect 3-ply Veneer Packing Case Shooks. A saving of 20 to 80 pounds in freight on every shipment because of extreme lightness. Stronger than inch boards burglarproof, waterproof and clean. Write for prices and samples. Convincing prices—Quick service.
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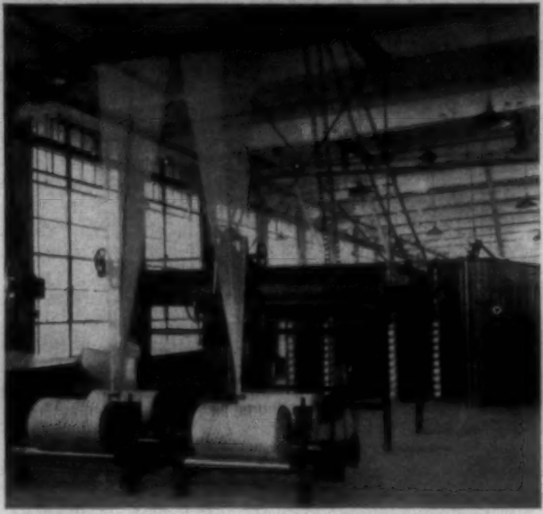
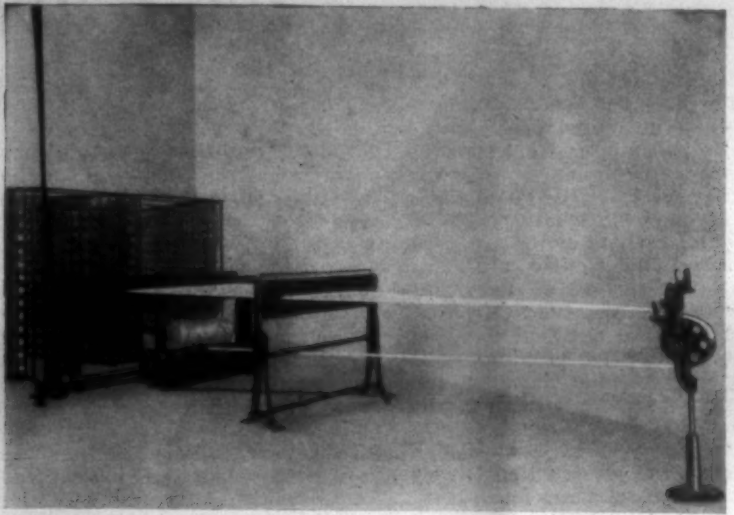
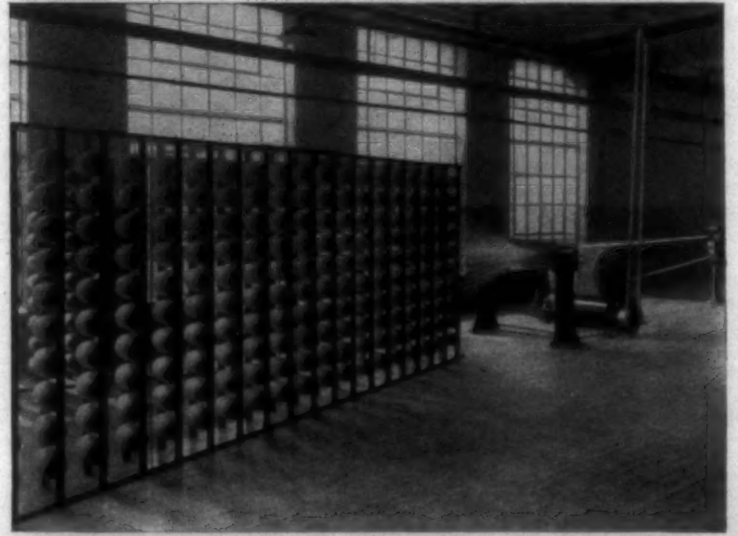


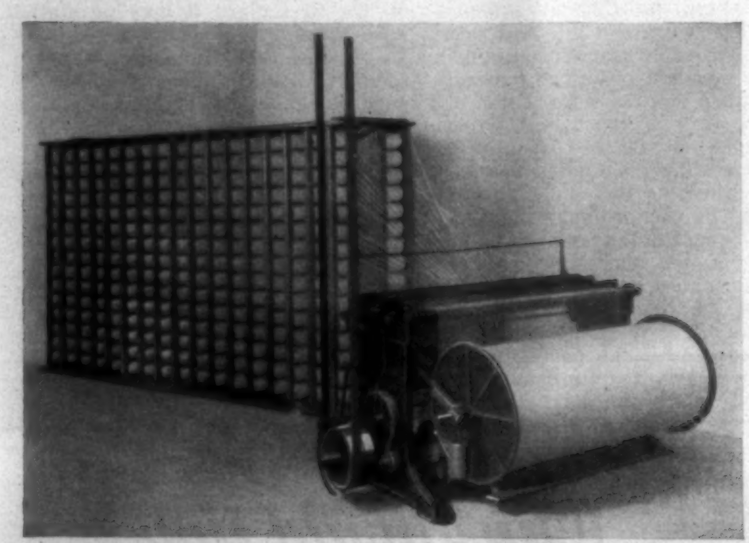
Combination Linking and Balling Warper, New Type Direct Pull Electrical Stop Creel



Special Short Chain Balling Warper, New Type Direct Pull Electrical Stop Creel



Balling Warper, New Type Direct Pull Electrical Stop Creel



Section Beam Warper, New Type Direct Pull Electrical Stop Creel

WARPERS

We are specialists in the designing and building of all Standard and Special types of Warpers and Warp Handling Equipments, which include Long Chain Beamers, Short Chain Beamers, Short Chain Warp Splitters, Warp Wrapping and Unwrapping Machines, Warp Coilers, Warp Dyeing and Sizing Machines, etc.

The above cuts illustrate only four of the several different types of Standard and Special Warpers, which we build for the Textile Industry, and limited space will only permit of our briefly calling attention to a few special features of these machines.

COMBINATION LINKING AND BALLING WARPER

This is a Standard type of machine built to meet the warper requirements of yarn mills making warps for the market, and being equipped with Linker Head and Balling Attachments enables a yarn mill to furnish warps of any description that might be called for by a customer, either Linked or Balled, in any lengths, and with any Leasing specifications that might be required.

These machines are equipped with the New Type Cocker Linker, the New Type Direct Pull Electrical Stop Creel, Automatic Counter Clock, and Baller Tension Control, and are the most efficient and economical Warping Equipments that can be installed by a yarn mill making warps for the market, and are built with a creel capacity ranging from 1500 to 3000 ends, with one or two Linker Heads, and with Balling Attachments to make from one to six Ball Warps at one time.

BALLING WARPER

This is the Standard type of machine used for making Long Chain Ball Warps, equipped with New Type Direct Pull Electrical Stop Creel, V type, with a capacity up to 800 ends.

The Draw Rollers of the Baller Head are large steel fluted rolls, preventing slipping and chafing of the yarn, and eliminating the usual leather covering required on Baller Heads. This machine is equipped with Automatic Leasing Counter Clock and all Ball Bearing Carrier Rollers.

SPECIAL SHORT CHAIN BALLING WARPER

This machine is specially designed and built to meet the warper requirements of yarn mills making Short Chain Ball Warps for the market, this machine having a W type Direct Pull Electrical Stop Creel with a limit of 1200 ends capacity, and is equipped with both Thread and Pin Leasing Attachments, and Automatic Leasing Counter Clock.

SECTION BEAM WARPER

This is our Standard type of Section Beam Warper for warping onto 54" Section Beams, and is equipped with a small type of Fluted Drum, which in addition to driving the beam, also acts as a measuring cylinder in connection with our Automatic Counter Clock, insuring accurate lengths, with a minimum of waste at the Slashers.

The machine is equipped with the New Type Direct Pull Electrical Stop Creel, and has a simple and efficient Beam Doffing Device, and all Ball Bearing Carrier Rollers.

General Data

Our New Type Direct Pull Electrical Stop Creels should not be confused with any other existing types of Electrical Stop Creels, as it is a very recent development, entirely new in both principle and design, and the results obtained by its use in warping yarns from the coarsest to the finest numbers stamps it as being the greatest improvement made in warping in a great many years, a less and more even tension being exerted on the yarn, and fewer lost ends in a warp than could ever be secured before by any other type of Warper, either Electrical or Mechanical.

We will be very glad to take up your warping problems with you, and will mail you one of our Machinery Catalogues upon request.

Cocker Machine & Foundry Company
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Builders of Warpers, Beamers, Warp Dyeing and Sizing Machinery, Cloth Dyeing Equipments, Etc.

The Poplaro Cloths

(By Dixie Weaver)

THIS fabric is one of a variety which has not been considered but little recently and inasmuch as there are rather interesting features regarding the cloth and its finishing, it may be well to give an analysis of a typical construction. As a general thing, these cloths are used for linings and similar uses, although they are also used for dresses and many other purposes, and the fabric in question was sold for the making of bathing suits, although we should imagine the utility would be limited in this direction for various reasons.

While this identical cloth has a twill weave, the construction is very similar to that of many fine satins, that is, the same yarns are used and the cloth count is similar, the weave alone making the different appearance when woven. Twill and satin weaves woven on the same number of harnesses are practically identical, because a satin weave is nothing more or less than a twill weave rearranged.

The first difference noted between such a fabric as the one described and most of the ordinary cloths is one of construction. In a plain cloth it is not necessary to have nearly as high a count as it is with a weave such as has been used. When a cloth is woven, the number of threads and picks per inch and also the weave, together with the yarn size, regulates the cloth firmness, that is, a plain weave contains two warp threads in a repeat, but the filling yarn crosses between each thread, making it necessary to have a certain amount of space between each thread to allow for this crossing, while in a cloth where the weave does not change on every thread, fewer spaces for crossing are necessary, and therefore, to make the cloth as firm as with a plain weave, a larger number of threads and picks are necessary, if yarn sizes be identical in each fabric. Because of the fine yarn sizes and the weave used this cloth has a high count, about 100x120 finished. In the first place it may be stated that a good deal of cloth such as that considered is made on cam looms and the problem of manufacture is somewhat similar to that noted when plain cloths are made.

This material is a quality product, for the yarns must be well made, the weaving must be even, and the result when finished must be very satisfactory. The yarn sizes are no finer than many of the up-to-date mills make continually and in large quantities, but sometimes in such a cloth as this better cotton would be used than if the yarn were to be used in some other kind of cloth. This is done because there is an excessive amount of friction on the yarn due to the high number of picks per inch and the resulting slow weaving, and unless good yarn is used loom production will be unsatisfactory. The large amount of filling on the surface makes it necessary for that yarn to be even, and to obtain a soft fabric the twist in the filling is likely to be less than if used in other cloths. Comparatively few cloths are produced with as high a count as this fabric. The take-up in weaving is very small and in most cases the filling yarn shows a greater shrinkage than does the warp thread.

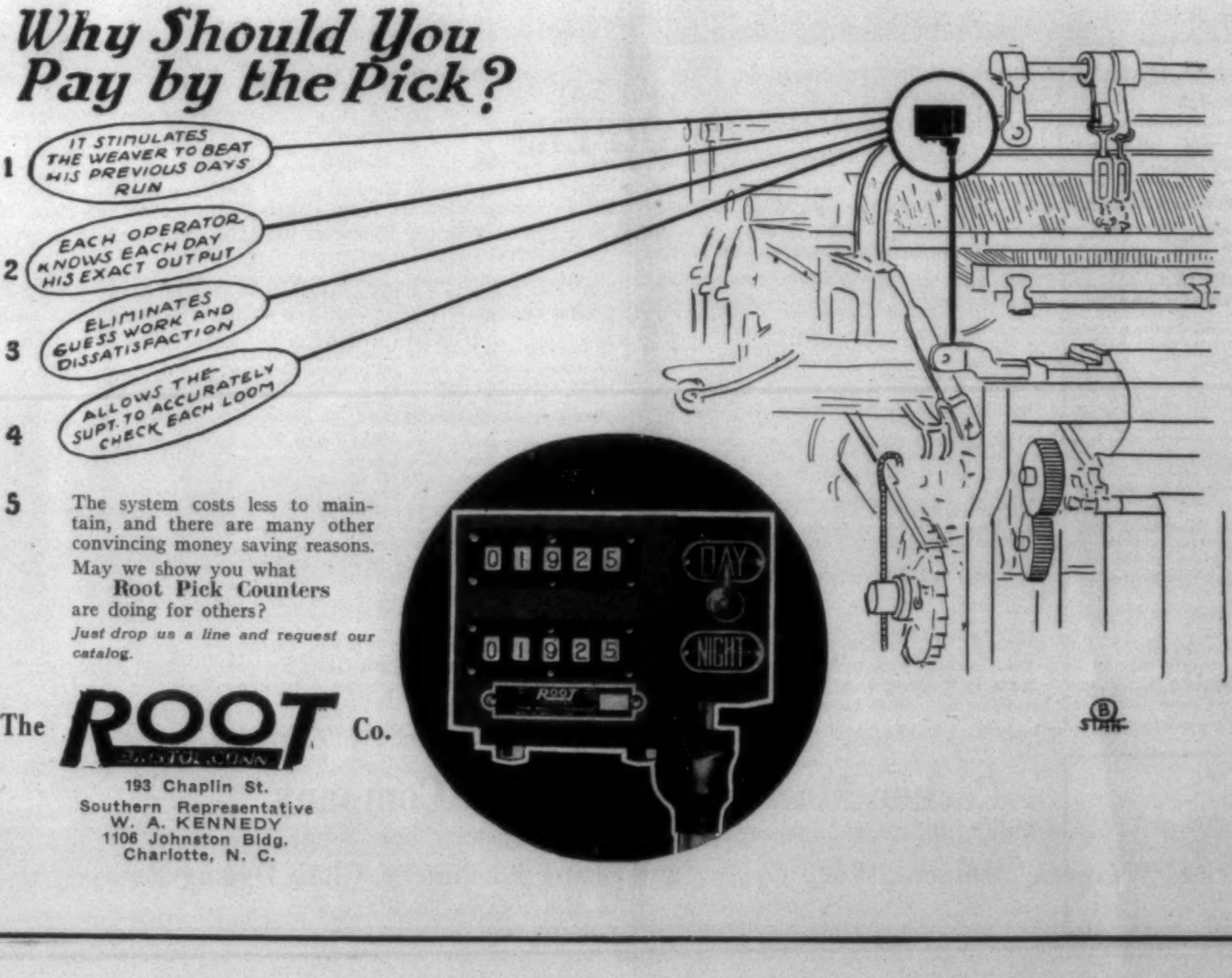
There is one item regarding this sort of cloth which affects its cost greatly, and this is the high number of picks per inch. When a mill is making voiles, poplins, shirtings, or some other class of goods, the large production in yards per loom or per weave makes the weaving and expense costs comparatively low, and while much economy is possible, it will affect the ultimate cost but little, yet on such a fabric as that considered, the labor cost is high, due to the small production, and there is great chance for economy in producing, with a corresponding reduction in cloth cost.

Another thing which has to be considered in this same direction is the obtaining of profits.

When a loom weaving voiles or similar low pick cloth, a profit of one cent per yard might return satisfactory dividends because of the large loom production, but when the picks per inch are as high as in this cloth with the resulting small yardage, a much greater return a yard is necessary if the same ultimate profit be secured from operation. It is entirely possible that a part of the recent partial operation in fine and fancy mills has been due to the kinds of cloths made, that is, the cloths sold have been largely poplins and voiles, both made with a small number of picks per inch and while the yardage produced may not be much smaller than usual it might have been insufficient to give mills all they desired in the way of orders. A return to fabrics with a larger number of picks would, without doubt, aid much in making a better condition in fine and fancy goods manufacture.

As stated previously, there are interesting features regarding the finishing of this fabric. Probably most of such material is dyed a black shade, though this is not necessary, excepting when used for

(Continued on Page 26)


1
IT STIMULATES THE WEAVER TO BEAT HIS PREVIOUS DAYS RUN
2
EACH OPERATOR KNOWS EACH DAY HIS EXACT OUTPUT
3
ELIMINATES GUESS WORK AND DISSATISFACTION
4
ALLOWS THE SUPT. TO ACCURATELY CHECK EACH LOOM
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DAY
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The quality of our products and the service we render are alone responsible for our growth. Emmons Quality Loom Harness and Reeds have retained every old customer and gained new customers year after year.

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Practical Discussions
By
Practical Men

The Mill Turnover.

Editor:

We often hear of the great expense of the labor turn over among some mills.

About what does this cost as figured by some statisticians?

Supt.

Answer to Manager.

Editor:

There is no question about the paying investment of employing ball bearings in place of friction bearings. Several mills have done this and all have found that it pays to do this.

One mill of a little less than 1,000 looms equipped the entire mill with ball bearing, replacing every friction bearing they had on the line shafting. They found that they had saved over 10 per cent of the friction load. It does pay to use ball bearings. Engineer.

Spinning on Jack Frames.

Editor:

How about spinning on jack frames? Is it feasible to spin coarse yarns on jacks and how coarse?

Sport Goods.

Pick and Pick.

Editor:

Is it possible to weave pick and pick goods on a one by four box loom? It is said that this can be done, but we are turning down orders because we do not see how it can be done. We cannot weave less than two picks of any one color because the shuttle from the four box side must be returned on the next pick from the one leaf side. How can it be done? A. R. A.

Answer to Carder.

Editor:

There is a remedy for the trouble you are having with pieces of dark waste, etc., getting on and into your roving. This is a very serious trouble, and unless remedied it will wrench your ambition as it has many others. To tell the truth, this trouble has even wrecked some mills.

When the roving is doffed, it should be packed sidewise in the boxes instead of thrown into the boxes "helter skelter." It takes a little more time to pack roving in boxes, but it soon becomes a matter of routine with the card room doffers, and it will make money for the mill by improving the work.

Lastly, another very important point to consider is to have roving boxes made or purchased with slats in the cotton instead of a solid floor. The open spaces between the slats permit the dirt to sift down through and out of the boxes. It is also easier to clean out the boxes. When the boxes are filled witb roving cover it with paper. Expert.

Answer to Carder.

Editor:

The dirty waste which appears in your roving boxes comes from your spindles. You will notice that flying fibres collect on the spindles and are pushed up, forming a ring of oily waste at top of spindle. This waste is pulled off with bobbin when doffing.

The flyers and spindles should be cleaned on all roving frames before each doff. I think this will help in solving your problem.

W. W. C.

Cause of Chafed Yarn.

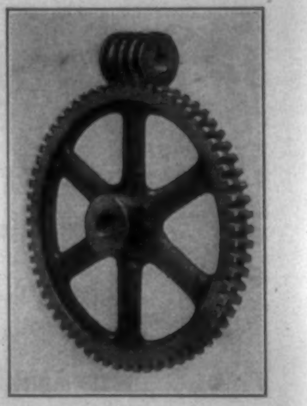
Editor:

We are having serious trouble with chafed yarns. We use strict middling cotton, 1 1-16-inch to 1⅛-inch staple, and should obtain a very smooth, strong, nice yarn, but instead of securing such a yarn, we are getting a very hairy or what is better known as chafed yarn. This weakens all of our yarns and fabrics, it does not wear so well and orders are being turned down. Where is our trouble and what is the remedy? We appeal to your Practical Columns for advice on this. N. E.

Answer to New Overseer.

Editor:

I am offering some suggestions for New Overseer's warping problem. Look over your skewers and the steps in which they rest. See that your spools work free and do not bind in any way at any time. Take special notice to see if any certain ends break down more than others. If so, replace skewers, or steps, or spool. You will have to experiment along this line to find the best results. Also see that your drop roll is heavy enough or works quick enough to take up all slack when the machine is stopped. Possibly some of your spools work easier than others and thereby lets off more slack yarn by turning over a little farther than the other spools, causing the yarn to kink. It is also probable that your trouble is at the spoolers. Look those machines over too, and especially your thread guides. They may be set too close and shave your yarn down too thin in places. G. A. M.



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Nothing gives more satisfaction to the mill owner than the soft texture, bright color and fine loftiness of fabrics treated with the

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Multi-Color Effects on Hosiery

By Joseph H. Zens, General Manager, United Hosiery Mills Corp, Chattanooga, Tenn., before Southern Section, American Association Textile Chemists and Colorists.

IN my talk I will not attempt to show that the process of dyeing of multi-colors in hosiery is a simple one, nor will I attempt to give you any new or scientific information. However, let me say that the dye problem as I see it is not as complicated as it sometimes appears to be. Most of our apparent difficulties can be overcome if we carefully analyze the kind of yarns used in the knitting of the fabrics, the dye materials and the dye equipment.

Let us analyze the kind of materials used in the construction of knitted hosiery. We find that we have two fibres, vegetable and animal, each of which has a different affinity for dyes, and these fibres used one in combination with the other make it possible to cross dye the stocking, and thereby obtain a multi-color effect in one or more dye baths. The vegetable fibres used in hosiery are made into cotton yarns, unmercerized and mercerized. The mercerized having been chemically treated naturally have more affinity for dyes than the unmercerized, and a two color effect can be produced on a fabric knit out of these two yarns; however, there will be only a slight difference of shade, the unmercerized taking the lighter shade.

We have another material made of vegetable fibres, known as artificial silk or rayon yarn. This yarn, as you know, is made by chemically treating the vegetable fibres and thereby reducing them to a pulp or liquid form, which in turn is by manipulation produced into a yarn or thread of varied filaments. The artificial silks as produced by the different processes have a different affinity for dyestuff. You can readily see that by running in combination, one with another, several kinds of artificial silk, a two or more color effect can be produced. It is important, however, that we carefully consider the kind of artificial silk we use in the construction of the fabric.

The animal fibres used in hosiery are made into wool or worsted yarns, and also pure silk yarns. The wool fibre is made into pure wool and worsted or part wool and cotton mixed; this yarn is commonly known as merino yarn, but this name or term has been discontinued by a ruling made by the Federal Trade Commission. By the use of the wool and cotton mixed yarn we can produce a two color effect by dyeing the wool a desired shade with acid dyes without affecting the cotton, leaving it in its natural state. By the addition of an artificial silk a three-color effect can be produced.

Other Multi-Color Methods.

Another method can be used to produce multi-color effects, by the use of a dyed yarn or by using an undyed resist yarn in combination with other materials or fibres. The resist process, however, is not generally used because if it is not perfectly applied it will not work satisfactorily while dyeing. A two or three-color effect can also be had in one garment by using a fast dye yarn of a darker shade run in combination with a natural or undyed yarn, which is dyed a lighter shade, thereby producing a two-color effect, and a third can be had by adding a silk or artificial silk yarn. The dyed yarn used must be absolutely fast and it is important that all surplus dye be removed before the yarn is used so as to avoid bleeding while the fabric is being dyed the lighter shade.

Let me impress on you the importance of the proper selection of the kind of yarns to be used in the construction of the fabric, as the proper selection of them and the method of knitting will very materially assist the dyed in producing multi-color effects. The dyer should be taken into consultation in the matter of the kind of materials to be used, and the color effects to be produced before the materials are selected and put into fabric, because it will simplify the dye problem.

Uniform Shades.

As I see it the extensive use of pure silk, artificial silk and cotton run in combination with each other, is not so much a question of producing multi-colors on hosiery, but rather a question as to how we can dye a three-fibre fabric and produce shades that are level and perfectly uniform; by that I mean the same shade on the cotton, artificial silk and the pure silk. With the extensive and continued demand for the light shades which have been in vogue for the past years, and which is increasing rather than decreasing, I want to just briefly discuss this phase of the color or dye problem. While dyeing a three-fibre fabric, as a rule the pure silk and the mercerized cotton take the darker shade, while the artificial silk goes to the lighter shade, thereby producing a speckled effect. We therefore find it necessary to use salts and alkalies with continued boiling, and later running the batch in a cooling bath, until the desired results or shade is produced. Let me here caution against the use of strong alkalies such as soda ash, etc., as they have a tendency to destroy the lustre and tensile strength of artificial silk.

Dye Materials Used.

I have stressed the importance of a thorough knowledge of the kind of materials used in the knitting of the stocking and I also want to lay stress on the importance of a thorough knowledge of the kind of dye materials necessary to produce the best results. In order to produce a solid or one-color effect, or be it a multi-color effect on a fabric made out of two or three kinds of fibres, care must be taken in the selection of the dye materials, as we know from experience that certain dyes and colors work very sat-

(Continued on Page 26)

Leno And Marquisette Weaving

Our leno doups for weaving marquisettes and fancy leno weaves are universally accepted as the only satisfactory solution of leno weaving.

In fact, by using our doups, any weave room with dobby looms can make a leno stripe as easily and at as low cost as any ordinary fancy fabric and, that, too, without any extra attachments to the loom whatever—no, not even a jumper or a slackener attachment is required.

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Get this attractive, durable fence—and have positive property protection the year round.
Page is America's first woven wire fence. The fabric is protected with a super-heavy zinc coat approximately 5 times heavier than that on ordinary galvanized wire. This means rust-resistance, long life, low cost protection.
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David Clark .... *Managing Editor*
D. H. Hill, Jr. .... *Associate Editor*
Junius M. Smith .... *Business Manager*

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The Cotton Situation

WE have repeatedly called attention to the fact that there was less than eight inches of rain in Texas from October 1st to April 1st and that with such a small amount of winter rains to produce subsoil moisture, Texas would not be in position to stand a dry summer and that it had never raised even a moderate size crop under similar conditions.

The July weather was unusually dry and the deterioration of the Texas crop has thrown a scare into the cotton world.

If the Government acreage estimate were accurate, which we do not believe to be the case, there would be no cause for uneasiness for the smallest yield per acre on record, 124 pounds of lint per acre would on 46,400,000 acres produce 12,000,000 bales, and it is reasonable to assume that the yield would be somewhere above the low record.

Those who believe the acreage correct need not worry if future weather is normal, for the condition of the States north of Texas is such as to indicate considerably above the low record yield.

Should, however, any further dry weather prevail in the Southwest or excessive rainfall prevail in the Eastern States such as to reduce the indicated crop below 13,000,000 we would undoubtedly see 30-cent cotton very quickly.

The situation is made more critical by reason of the fact fewer mills both in America and abroad have purchased forward cotton than has been the case in many years.

Latent buying power is a tremendous bull force and there is no bull like a scared bear.

Buying that has been done is no longer a bull force but buying that is yet to be done makes bearish operations dangerous.

Cotton manufacturers are beginning to go around with long faces and say in a sad voice to everybody they meet, "I hope cotton will not go to 30 because it will ruin business."

The cotton manufacturers make similar statements to their commission merchants and even to the buyers of goods, and then having spread such propaganda as widely as possible, can not understand why the buyers will not buy large quantities of cotton goods.

If there ever was a set of men who did everything possible to kill the sale of the output of their factories it is the cotton manufacturers of this country.

After talking to the average cotton manufacturer for three minutes dry goods merchants feel like hurrying home to put on cut price sales.

When cotton was 22 cents in 1923 there was little business and no profits.

When it advanced to 30 cents business increased and the mills were able to sell at reasonable profits.

When it went on to 37 cents there was a reaction but such reaction did not come at 30 cents, as is repeatedly stated to be the case.

Everybody then said that if cotton would go back below 25 and stay steady there would be good business and mills could operate upon a profitable basis.

Cotton went back below 25 and remained almost stationary for a full year and there have been very small profits and many losses.

We have certainly not had any business that would justify the statement that low price cotton would benefit the mills, and no matter how doleful the cotton manufacturers may talk about 30-cent cotton, there is no evidence that the mills would see any more business than they have had with 23-cent cotton.

With cotton declining or tending to decline, merchants will continue to pursue their hand-to-mouth policy, but should cotton go to 30 cents, which condition could only be based upon a prospective inadequate yield, merchants would begin to get scared and fill their shelves somewhat in advance, provided, of course, they did not come in contact with too many of our sad voiced cotton manufacturers, wailing about the danger of 30-cent cotton.

They might get so badly scared that even our brilliant cotton manufacturers could not talk them out of buying cotton goods.

The difference between 25 and 35-cent cotton is about 6 cents on a man's shirt and is almost insignificant in most lines of clothing, and 6 cents additional does not keep men from buying new shirts.

We do not wish to be understood as predicting 30-cent cotton because we believe that the price and size of this crop is pure guess-work today.

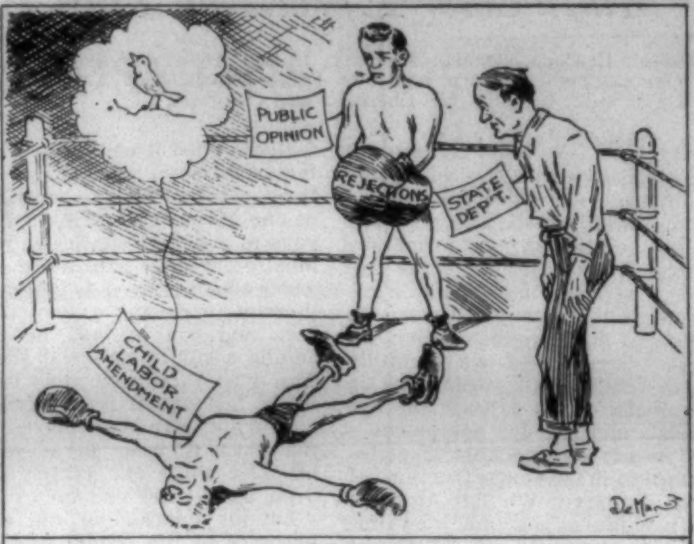
We are by no means satisfied that the crop is not going to be in excess of 13,588,000 bales. We believe that the probabilities of this crop now range from 12,500,000 to 15,000,000 bales, depending entirely upon the weather from this period to October first.

A 15,000,000 crop would not be burdensome and with such a crop we doubt if cotton would remain long below the 22-cent level.

A 12,500,000 crop would mean 30-cent cotton and in our opinion would mean more profits for the cotton mills than 22-cent cotton.

If cotton does go up we wish that a few of our cotton manufacturers could be struck dumb for about 60 days so that their tongues could not prevent merchants and converters from buying cotton goods.

The calamity about which they howled has gone hand in hand with 23-cent cotton and will be no more prominent at the 30-cent level.



He's been "out" several months now; why don't the referee say something?

THE FARM JOURNAL

Time to Declare a Knockout

THIRTY-FOUR of the State Legislatures have rejected the ill-fated "Child Labor Amendment," in one form or another, and 25 of these have officially certified the fact to Secretary of State Kellogg.

It takes 36 States to ratify a proposed amendment, and only 13 States to reject it. Twenty-five have rejected it. That is twelve more than necessary. It is one more than half the States.

Now the question is, why does Secretary Kellogg not make an official proclamation that the amendment is rejected, and that the rest of the States need give it no further consideration?

He would have made such a proclamation if twelve more States than necessary had ratified the amendment; why does he not announce it now that twelve more States than necessary have rejected it?

The Secretary of State is an able lawyer, who knows the Constitution. He knows public opinion, too. He is good enough at arithmetic, no doubt, to be aware that 25 States are twelve more States than 13 States.

The Farm Journal respectfully invites Secretary Kellogg to take his courage in his hand and establish a useful precedent, by proclaiming officially what everybody knows—that the so-called Child Labor Amendment was knocked cold, months ago.—The Farm Journal, Philadelphia, Pa.

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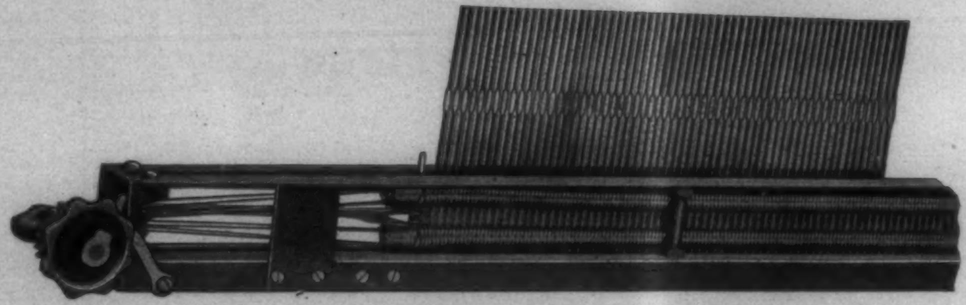
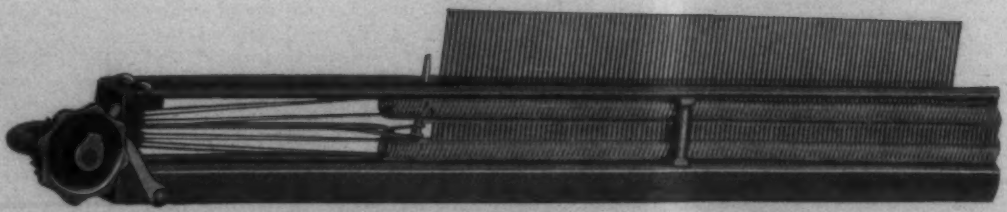
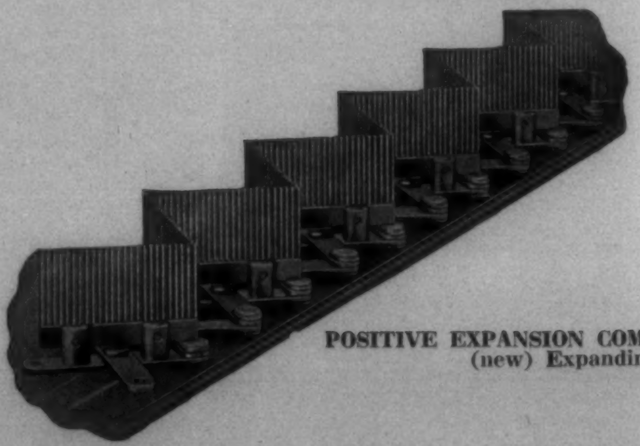


LEESE COMB



TAPE EXPANSION COMB



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Will you hold your own—

Now that Business and Competition Have New Life?

Spools Will Help

WILL you be successful under the new conditions of business, with competition stimulated by the thought of new and larger orders? Much depends upon your equipment, and the type of spools installed.

Now is the time to make a mental inventory of these essentials to production. If you are using ordinary spools you are giving away advantages—you are needlessly adding to the expense of spooling while lowering the quality and volume of your production.

Lestershire *Vulcanized* Fibre Spools place you in position to realize greater profits. Their rugged construction of vulcanized fibre and patented head-fastenings is the basis of a superiority which becomes part of your fabrics.

Read the outstanding advantages of Lestershire *Vulcanized* Fibre Spools, and estimate their value in helping you to meet competition.

Lestershire *Vulcanized* Fibre Spools

Eliminate your spool replacement expense.

Eliminate loss of yarn due to spools (in many mills this loss runs into thousands of dollars).

Eliminate all possibility of injury to employees from rough or slivered spools.

Increase about 10% the yardage on your spools.

Eliminate spooler kinks and knots due to spools.

Eliminate broken ends on your warpers due to spools and thus increase warper production 20% to 30%.

Materially improve the quality of your warps;

And thus better the quality and increase the production in your weave room.

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In order to give those of our customers who use standard sized Warper Spools the benefit of immediate deliveries, we endeavor to carry on hand for quick shipment a stock of 4x5, 4x5½, 4x6 and 4x6½ spools.

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The necessary changes have been worked out and proved in practice. Our experts and salesmen will be glad to tell you all about them.

Manufacturers can take advantage of the opportunity this affords to modify or enlarge their line of products to meet present demands.

Let's Talk It Over.

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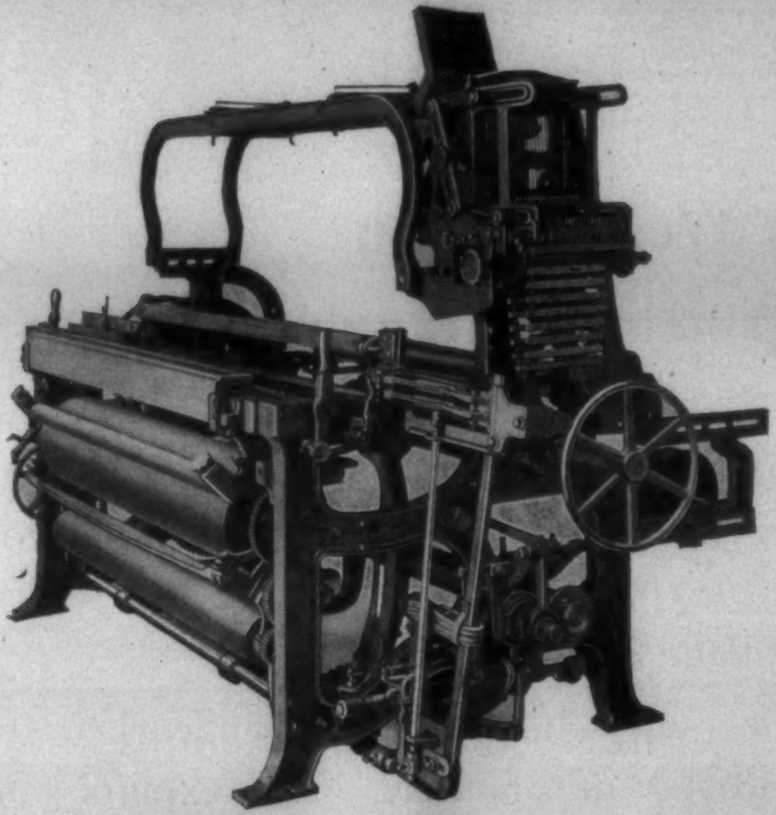

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We are Building an Addition to Our Works.

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Milford, Mass. and Greenville, S. C.

Personal News

E. D. Underwood has become overseer of weaving at the Wennonah Mills, Lexington, N. C.

J. W. Moore has resigned as overseer of carding at the Cabarrus Mills, Kannapolis, N. C.

M. P. Childers has resigned as overseer weaving at the Wennonah Mills, Lexington, N. C.

D. E. Strup has resigned as overseer of carding with the Armstrong Cotton Mills, Gastonia, N. C.

W. A. Pruitte has accepted the position of overseer of carding at the Armstrong Mills, Gastonia, N. C.

L. T. Spivey, of Mount Holly, N. C., has accepted a position with the Durham Hosiery Mill No. 1, Durham, N. C.

J. W. McManus, of Hogansville, Ga., is now master mechanic and yard foreman at the Patterson Manufacturing Company, Roanoke Rapids, N. C.

H. E. Still has resigned as overseer carding at the Orr Cotton Mills, Anderson, S. C., and accepted a similar position at the Ninety-Six Cotton Mills, Ninety-Six, S. C.

A. E. Nance has resigned as overseer of carding at the China Grove Cotton Mills, China Grove, N. C., and accepted a similar position at the Cabarrus Mills, Kannapolis, N. C.

R. S. Harris has resigned as overhauler at the Greenwood Cotton Mills, Greenwood, S. C., to become second hand in spinning at the Clinton Mill, Clinton, S. C.

H. L. Witman has resigned as night overseer of carding at the Lydia Cotton Mills, Clinton, S. C., to become overseer of carding at the Knoxville Cotton Mills, Knoxville, Tenn.

D. C. Jolley has resigned as overseer of carding at the Wallace Manufacturing Company, Jonesville, S. C., and accepted a similar position at the Orr Cotton Mills, Anderson, S. C.

R. J. Smith, formerly overseer of weaving at the Baldwin Mills, Chester, S. C., has accepted a position with the efficiency department of Scott-Charnley Company, Charlotte. Mr. Smith and family will make their home in Buffalo, S. C.

N. M. Slice has resigned as second hand in night carding at the Newberry Cotton Mills, Newberry, S. C., to night overseer carding at the Lydia Cotton Mills, Clinton, S. C.

Major H. Raiford Gaffney, formerly with the Judson Mill, Greenville, S. C., is now designer for the Mooresville Cotton Mill, Mooresville, N. C. Major Gaffney, who is originally from Gaffney, S. C., is a graduate of the College of Charleston and received his textile training at the Georgia School of Technology.

W. R. Owens has resigned as overseer of carding at the Wampum Mills, Lincolnton, N. C., and accepted a similar position at the China Grove Cotton Mills, China Grove, N. C.

Improvement in Humidity Regulation.

William B. Hodge, of Charlotte, has just been granted a patent, Serial No. 1,542,136. This patent has thirteen claims, and represents an improvement in regulating the moisture delivered from a humidifier; more especially of the fan type.

The application of this device allows the spray in the humidifier to be adjusted, so that any desired amount of fine spray can be produced from the humidifier, from nothing up to its full capacity.

At the same time that the spray is varied in volume, the air draft produced by the fan remains the same, so that the air circulation is constant, but the amount of spray added to the air draft is variable, at will.

This patent has been assigned to the Parks-Cramer Company, and is another evidence of the improvements that they are constantly putting into their air conditioning apparatus.

Warrenton, N. C.
Peck Manufacturing Co.

5,520 spinning spindles.

R. B. Mullin	Supt.
A. G. Pittman	Day and Night Carder
C. H. Keith	Day and Night Spinner
R. L. Miller	Night Carder
P. R. Loyd	Night Spinner
Elgin Lovel	Master Mechanic

Mobile Cotton Mills.
Mobile, Ala.

J. A. R. Cryer	Supt.
T. G. Bullard	Day Carder
J. T. Quarles	Night Carder
G. W. Turner	Day Spinner
O. L. Thompson	Night Spinner
H. H. Graddick	Day Weaver
Will Moody	Night Carder
Woody Brently	Cloth Room
Fred Hagen	Master Mechanic

Arkwright Mills.
Spartanburg, S. C.

20,250 spinning spindles; 604 looms.

W. W. Becknell	Supt.
H. S. Fowler	Carder
R. J. Compton	Spinner
C. L. Leopard	Weaver
W. L. Stephens	Cloth Room
M. M. Shook	Outside Man
J. I. Walden	Master Mechanic

Cabarrus Cotton Mill.
Concord, N. C.

J. G. McCachern	Supt.
W. L. Blackwelder	Carder
J. L. Bullaboy	Spinner
W. C. Broome	Weaver
J. J. Fletcher	Cloth Room
Mack Moore	Yard Boss
Horace Miller	Master Mechanic

Bobbins and Spools

Particular attention given to

All Types Of Warp Bobbins For Filling Wind

Samples of such bobbins gladly furnished

The Dana S. Courtney Co.

Chicopee, Mass.

A. B. CARTER, Southern Agt, Gastonia, N. C.

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because he has cunningly
hid his powers in
Solozone, through which
for 15 years
he has produced his own
harmless bleaching effect
on Cotton, Wool, Silk

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MILL NEWS ITEMS OF INTEREST

Stanley, N. C.—Two of the houses in the village of the Lola Manufacturing Company were destroyed by fire.

Andulusia, Ala.—It is understood that construction of the new mill to be built here by the River Falls Power Company will be started within a short time.

High Point, N. C.—The High Point Chamber of Commerce is interested in organizing a company to establish a yarn mercerizing plant here.

Roxboro, N. C.—The A. T. Baker Company, which is enlarging its mill here, has let contract for the roofing to the Budd Piper Roofing Company, of Durham.

Shelby, N. C.—The machinery in the Katherine Mill is to be removed within a short time. Part of it will be installed in the new Ora Mill, which has recently begun operations.

Florence, S. C.—It is reported that New England capitalists and local business men will erect a 35,000-spindle mill here. The matter is being handled through the Chamber of Commerce.

Asheville, N. C.—The Sayles Finishing Plant has let contract to Jelly-Wilson Company, Asheville, for installing water system in connection with their plant under construction here.

Sand Springs, Okla.—It is reported that Clarence A. Miller, of the Miller Manufacturing Company, Dallas, Tex., has acquired the Sand Springs Cotton Mill and will install a large bleaching and finishing plant.

Drexel, N. C.—The Drexel Knitting Company, recently reported as planning to enlarge its plant, has let contract for the construction of a two-story brick building, to cost $25,000. It will replace the frame structure now being used by the mill.

Ellenboro, N. C.—The Belk Manufacturing Company has been organized here to establish a yarn mill. The company was organized in accordance with plans announced last week by W. H. Belk, of Charlotte, and others. Mr. Belk will be president. The mill building will be 80x200 feet, one story.

Knoxville, Tenn.—The Southern Cotton Mills have been incorporated with a capital stock of $500,000 by Irving D. Saxton, 7 Saxton Ave., and associates. The new company will take over the Prendergast Cotton Mills, Prendergast, Tenn., which were placed in receivership some time ago, and will improve and enlarge the plant.

Chattanooga, Tenn.—Contract for the erection here of the Central Franklin Processing Company, will be awarded within the next week or ten days, according to J. E. Sirrine & Co., engineers, of Greenville.

Roanoke, Ala.—The Culp Manufacturing Company, manufacturers of overalls, has sold out to the Valley Mills, of LaGrange, Ga., and will henceforth be operated as a link in the chain of industries owned and operated by the Callaway interests. H. Culp will continue in charge of the local plant, and Nat Carruth, of LaGrange, will be in general charge of this and other similar plants.

Rossville, Ga.—Rapid progress is being made in erection of the plant for the National Yarn Processing Company, of Chattanooga. Machinery for the new mercerizing plant is now being installed. The buildings are about completed.

T. H. McKinney, president of the company, estimates that the new plant will be in operation in about 60 days. It will have an initial capacity of from 125,000 to 150,000 pounds of mercerized yarn a week. For the present it will confine its activities to mercerizing but later plans to widen its scope to include spinning.

Mr. McKinney, Tom Moore and Scott Probasco are the principals in the new company. The enterprise is capitalized at $600,000.

Jacksonville, Fla.—J. M. Short, of Alta Vista, Va., has been selected as manager for the Brown Textile Mills Company and will take over the supervision of the construction and operation of the cotton mill to be built in the immediate future at Ratliff, near Callahan. J. M. Brown will head the new mill, office of which is at 349 St. James Building, Jacksonville.

The mill will be of 20,000 spindles capacity. Construction work will probably begin within the next two weeks.

Greenville, S. C.—A number of Greenville mills will be closed down for a week or two of vacation while others will run continuously, according to information obtained. Among the mills closing are the American Spinning Company, Poe, Brandon and Poinsett, while Camperdown has been on a curtailed schedule for several weeks. Dunean, Judson and possibly others will not close for the vacation, it is understood. Officials of the Woodside Mills said they had no vacation plans in mind.

The fact that most of the Greenville mills are running full time is in direct contrast to the same period of last year, when virtually all textile plants in this section were on a curtailed schedule. The fact that the mills are in operation six days a week is reflected in trading conditions here, Greenville merchants declare.

Louisville, Ky.—It is reported on good authority here that Wolf, Strauss & Co., 65 Madison Ave., New York, who are American agents for J. P. Bomberg, German manufacturers of rayon, have selected a site in Kentucky for the establishment of a plant to manufacture rayon.

Cumberland, N. C.—The Cumberland Mills, which were incorporated last week by D. J. Rose, P. C. Shore and E. N. Brower, all of Rocky Mount, have taken over the Corley Mills, which were sold by the receivers. Work has been resumed at the mill, which is now running on full time.

D. C. Williams, superintendent Rockfish Mills, Hope Mills, which is under the same management as the Cumberland Mills, will also act as superintendent of the plant here.

Spartanburg, S. C.—The large addition to the Valley Falls Cotton Mills has been completed and by the first of next week officials hope to have the machinery installed and ready for operation, it was announced Thursday.

The addition is a little larger than original plant. The new building is magnificent in structure and covers a large plot of land. It was built by the Fiske-Carter Company, of this city.

Greensboro, N. C.—A distinctly better tone is indicated in textile circles in the Piedmont section of North Carolina within the past month, and some mill men are of the opinion that things are even better than they seem to be.

The improvement, however, is less in the line of staples than in other goods, and ginghams do not seem to have picked up as much as some others. The White Oak denim mills here are still on four-day-per-week schedule, as is the Proximity Manufacturing Company and the Proximity Print Works. The Revolution Mills is on full time, as is the Pomona Mills. At Gibsonville

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Two Peas

Any two Victor Travelers in a batch are as alike as two peas in a pod—size, weight, and finish are absolutely uniform. In our 25 years of traveler making we have developed the most efficient machinery, and an organization of traveler experts to operate this machinery.

The result is travelers that work alike, and give the best that can be built into so tiny a piece of metal.

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Sewer and Water Development
Largest Landscape Organization in the South

the Mineola Mills is on full time schedule.

The average opinion among those who follow the textile industry closely is that the mills in the Piedmont section are on at least a schedule of one more day a week than they were a month ago.

Germans Increase Rayon Industry

Washington.—Manufacture of rayon in Germany has increased enormously since the termination of the war, Consul Dreyfus, at Dresden, advises the Department of Commerce.

It has been announced in Europe that the total world's production of about 9,000,000 kilograms in 1914 increased to 62,079,000 kilograms in 1924. Many continental estimates place the 1925 production of rayon at about 90,000,000 kilograms. The German rayon industry was only about 3 per cent of the world's total production in 1914. It is now estimated at about 8 per cent.

German exports of rayon in 1924 amounted to 2,348 metric tons, valued at 23,580,000 marks, as compared with 648 metric tons valued at 7,893,000 marks in 1912.

Roanoke Rapids Wins Better Home Contest

Roanoke Rapids, N. C. — North Carolina won a prize in the recent campaign for "Better Homes," and the little town of Roanoke Rapids came first in the class under 10,000. This national movement is growing steadily all over the United States. This year almost three times as many chairmen of woman's clubs entered communities, towns or cities, bringing great credit to the clubs and doing a vast amount of good, especially in small rural communities.

At the recent meeting of the North Carolina Federation of Women's Clubs, held in Pinehurst, it was decided to have the department of "home economics" changed to "The American Home." Under this department will come "Home Making," so for the next two years this great project will be particularly stressed throughout the State.

The story of the campaign as a whole will be published this fall and winter through magazines and booklets furnished by the Washington office. Roanoke Rapids was fortunate in that many of the campaign features are to be used for national publicity.

Five-Room House.

A little five-room house was used for demonstration purposes, and for a whole week it was open to the public. It was furnished for a little less than $1,000. Among the other campaign features was a "better babies contest," held under Dr. Larkin, Halifax county superintendent.

Through all the school innumerable contests were put on. Through the mills, kitchen and garden contests; clean up day was observed—garden week was stressed.

Throughout the winter meetings were held in the mills. The women were told what to plant. Perrenial beds were drawn to scale. Shrub cuttings were carried to them and planting of grass stressed.

At all times the feeling of beauty of the whole idea was stressed. The plan was not commercialized in any way. No money was given in prizes. The merchants donated most of the kitchen contest prizes. L. G. Snell, a local merchant, furnished, completely free of charge, the furnishings for the house.

Club-Home Agents.

The success of this campaign is largely due to Mrs. Grace Brown and Mrs. S. F. Patterson, of the Woman's Club, and Miss Bernice Allen, the county home demonstration agent. For months Miss Allen carried on through the rural district a wonderfully helpful program. A rural kitchen contest was held and gardens planted. On the last day of the campaign, the county women came up to visit Roanoke Rapids. A picnic was held in the park, at which time 135 prizes were given. Miss Allen had a great deal to do with the furnishing of the home.

The district superintendent, Miss Pauline Smith and Mrs. Estelle Smith, of Goldsboro, who will be the "American Home" chairman for North Carolina, both inspected the house and were in Roanoke Rapids during the campaign. They both expressed themselves as delighted with the scope of the whole campaign.

Contest Announcement Delayed.

The Chicago Belting Company announces that so many names were submitted in their $500 prize contest to select a name for their new spinning belt that the judges were unable to make a decision in time for the winner to be announced in this issue.

The winning name and the name of the contestant who will receive the $500 prize will be announced in the Southern Textile Bulletin of August 6.

H. T. Cosby Opens Yarn Agency.

H. T. Cosby has opened a yarn agency in Charlotte, having quarters in the Johnston building. Mr. Cosby, who is an experienced yarn man, will represent the Armstrong and Rankin chains of mills of Gaston county and the market and Wellman Mills, of Huntsville, Ala.

J. E. Crayton, Jr., of Charlotte, will be associated with Mr. Cosby.

Celanese To Be Handled Through Charlotte Office.

The American Cellulose and Chemical Manufacturing Company, manufacturers of celanese, have opened Southern offices in the Johnston Building, Charlotte, in accordance with plans announced in these columns several weeks ago. The Southern sales office will enable the company to better handle their rapidly growing business with Southern mills.

Todd B. Meisenheimer, of Charlotte, will be Southern representative for the company. He has been engaged in the dyestuff industry in Charlotte for some years.

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LOOM LEATHERS
Highest Grade Oak Tanned
For Cotton, Wool and Silk Looms
Check Straps, Hold-ups,
Dobby Straps, Bumpers,
Lugs, etc. Jack Straps,
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WOOD ROLLS
FOR THE TEXTILE INDUSTRY
We can always quote to advantage
on ALL TYPES OF GUDGEON
ROLLS, including
CLOTH ROLLS
and
LOOM TOP BEAMS
WASHBURN
MFG. BY WASHBURN NEW BEDFORD MASS.
IF IT'S ROLLS, WE MAKE THEM
NEW BEDFORD, MASS.

Reliable Humidifying Devices
Since 1888
also
Better Textile Dryers
Manufactured by GRINNELL COMPANY, Inc.
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That Satisfies"
ATLANTA HARNESS
& REED MFG. CO.
ATLANTA, GA.
P. O. Box 1375
Telephone Main 0517

Multi-Color Effects on Hosiery

(Continued from Page 21)

isfactorily on one kind of material aid not so well on other materials.

The interest shown in the fancy lines of hosiery during the last two or three seasons is surprising, and I believe that the demand for this class of merchnadise will continue just as long as the producers can and will create new ideas and designs. While the dyeing of multicolors on fabrics made out of the materials as I have described seems to be a rather difficult task, you can—by a careful study of the materials used—very materially assist in the development of the fancy lines now so much in demand.

The Poplaro Cloths

(Continued from Page 18)

certain purposes. In many lines a full range of colors is sold.

There is, however, one thing which is noted as soon as the cloth is seen, and this is the lustre, the face of the cloth having a sheen which the back does not. In finishing such fabrics it is customary to singe off all the cotton fibres which project and this leaves a rather smooth finish. Of course, sizing materials are used, the ingredients used depending upon the results desired when finished, but in addition a calendering process is employed.

Sometimes a fabric is finished double fold, thus giving the face a gloss which the back does not have, and sometimes an extra fabric is used a back cloth and the material is run full width. In this case the top roll does the pressing. There is in this fabric a novel feature which is not oftentimes used and this can be seen by examining carefully with a magnifying glass. On the fabric there appears innumerable fine lines which run in opposite direction to the twill weave of the cloth. This is done by having the pressing roll milled in a manner to produce the effect. Though it may not be generally known, it is a fact that the reflection of light produces a gloss and this reflection is made possible by pressing lines into the finished fabric. Some have been inclined to believe in the past that the excessive luster which some cloths had was either made through the use of mohair or through sizing and pressing, but in many instances it is the method of pressing rather than the pressing alone which has produced results such as those seen on the cloth as described. Naturally any pressing or milling on a cotton fabric will disappear when the material is washed, and will also decline in luster through use without washing, so such a finish is not permanent, although the results noted when sold approaches very many all silk fabrics. One other reason which tends to make prices closer on various lines of satins is that orders are for quite large amounts, possibly not so large as for plain constructions, but much larger than for fancies. Fewer colors are usually required when finished and this tends to keep finishing costs rather low.

Very many fabrics of this nature have a warp count of 96, and the number of picks are varied according to the yarn sizes and the weave used. Sometimes the number of picks is regulated to an extent by the price, and if a buyer needs to get inside a certain limit, the reduction is usually made through the reduction of the number of picks per inch. There is a certain amount of stretch when the cloth is finished, but it is not so large as on some varieties of plain fine materials.

Some mills would not make two sizes of roving if they were producing 60-1 warp and 60-1 filling. but would make both yarns from one size of roving. This method makes a shorter draft possible for the warp and increases the cost of the warp, but decreases the filling.

Hermitage Cotton Mills.

Camden, S. C.

16,640 spinning spindles; 390 looms.

S. L. Crolley	Supt.
W. R. Barnette	Carder
G. A. Barnes	Spinner
H. O. Burns	Weaver
B. D. Kelly	Cloth Room
A. D. Hurst	Yard Man
L. E. Myers	Master Mechanic

Wanted

Second hand for dye house. Must be experienced on long chain dyeing. Address Cramerton Mills, Cramerton, N. C.

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AUTOMATIC SHUTTLES
Try Our New Automatic Shuttles for either cotton or woolen weaving. It is meeting every requirement with entire satisfaction.

Cotton Mill Processes and Calculations

(Continued from Page 16)

the comber, but the best practice is to put it through another machine called ribbon lapper. This machine usually receives 4 sliver laps, and has a draft between 4 and 5. It lays the 4 sheets one upon the other, and draws out the delivered lap to the original weight of one of the laps, fed to it, say 400 grains per yard. The laps delivered by this machine are much more even and smooth than those delivered by the sliver lap machine, which latter have a tendency to be in shreds, marking the position of the card slivers from which they were made.

Heilmann Comber.

49. The standard comber, whilch is in universal use at the present time for long staple cotton is the Heilmann, named from its inventor. This machine is today practically the same machine as when it was first introduced 50 years ago. The patents have all expired, and the machine is now being built by most of the prominent cotton machinery biulders in England, and by one or two in the United States.

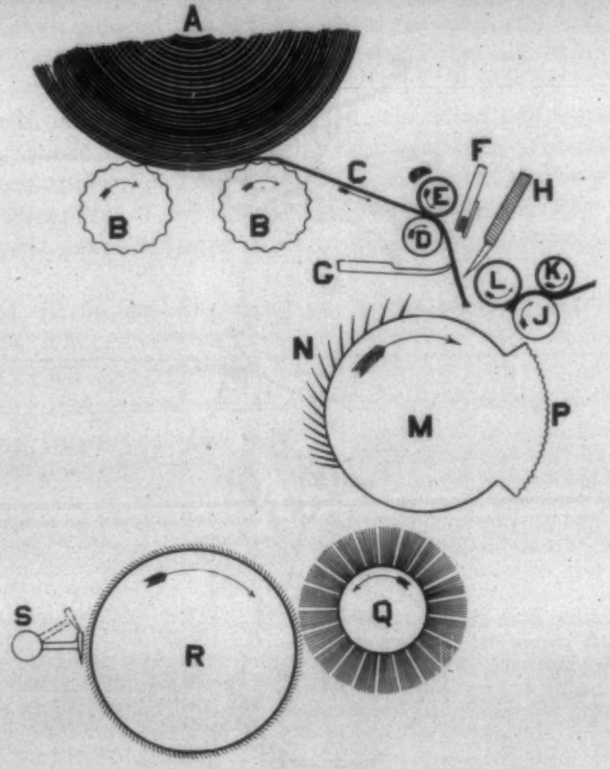
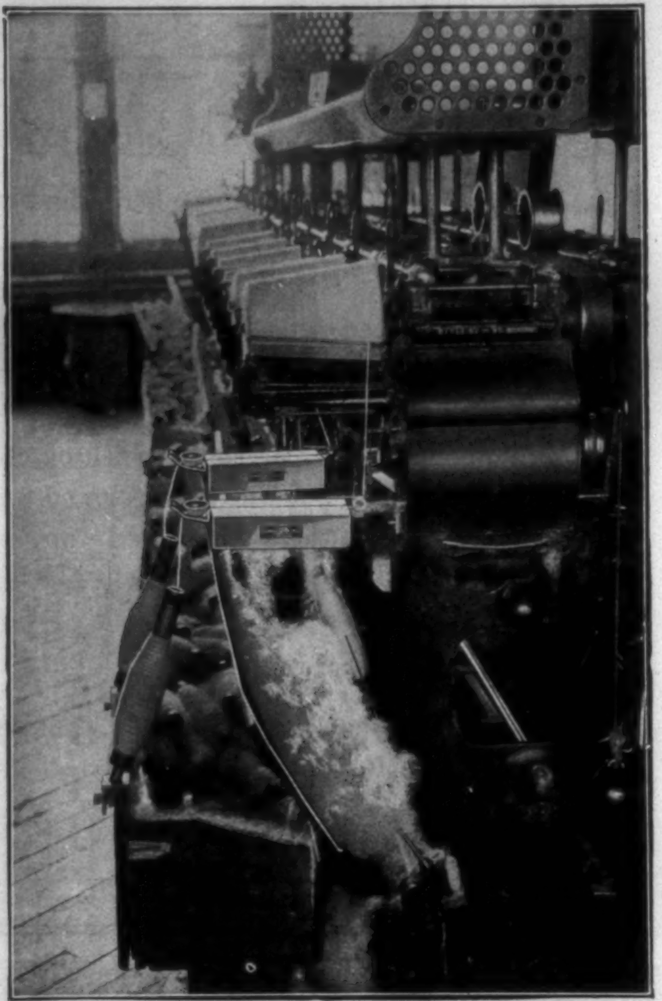


Fig. 12. Heilman Comber.

Heilmann Comber, Fig. 12-13—Lettering.

A. Lap.
B. Wooden Lap Rollers.
C. Unrolled Lap.
D. Steel Feed Roll.
E. Leather Covered Top Feed Roll.
F. Nipper.
G. Cushion Plate.
H. Top Comb.
J. Steel Detaching Roll.
K. Brass Covered Detaching Roll.
L. Leather Covered Detaching Roll.
M. Combing Cylinder.
N. Combing Needles.
P. Fluted Segment of Cylinder.
Q. Brush.
R. Doffer.
S. Doffing Comb.


The Truth About Slubs

It does not require inventions to make slubs, but often they are made, and that is another story.

We wish to tell you that the Eclipse Automatic Yarn Cleaner is sure death to slubs. The Eclipse Cleaner not only catches all the slubs but thoroughly removes all the dirt in the yarn.

Many knitting mills and spinning plants realize the extreme value of the Eclipse Cleaner, and are equipping their entire winding capacity with the Eclipse Cleaners. The basic principle of good knittng and weavng is thoroughly clean yarn.

Why make yourself believe you are getting the best results when you can absolutely improve your yarn with the Eclipse Cleaner.

The Eclipse Cleaner is easily attached to your winder. It does not add any additional cost to your winding costs. Upon request we will cheerfully give you a demonstration.

Eclipse Textile Devices, Inc.
Elmira, N. Y.
Makers of
Automatic Yarn Cleaner, Automatic Stop Motion, Yarn Tension Device
Eclipse Van Ness Dyeing Machine

Oblong Basket

LANE
Patent Steel Frame
Canvas Mill Baskets

Have established an enviable reputation among mill men for economy and uniformly satisfactory service.

Made oblong, square or round, with or without taper. Some are perforated for steaming, others mounted on sturdy thread-guard casters. All are perfectly smooth inside.

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Originators and Manufacturers of
Canvas Baskets for 25 years
Poughkeepsie, N. Y.

Better Lubrication at Less Cost per month

You don't judge the power of a small stick of dynamite by its size—oh no!

And you should not judge the importance of lubrication by its cost, relatively small compared to other mill expenses. Wrong lubricant permits expensive wear on machines, lessens production and ties up labor.

USE ECONOMICAL, EFFICIENT

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The use of NON-FLUID OIL promotes maximum production by checking friction—and also minimizes wear on bearings.

All this is due to the peculiar ability of NON-FLUID OIL to stay in bearings—an ability which makes it last longer per application and cost less than liquid oil and saves your product from oil stains.

Write for free sample and bulletin, "Lubrication of Textile Machinery."

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Heilmann Comber.—PROCESS.

This comber usually receives six (sometimes eight) laps, and is called a six (or eight) head machine. It has as many cylinders and other parts, shown in Fig. 12, as there are laps, or heads.

The following description applies to each lap on the machine, each lap being worked separately in the same manner. The resulting sheets are led to a condenser and formed into a single sliver and delivered into a roving can.

The narrow lap (9¾ to 11¾ inches) is taken from the lap machine, and placed on the lap rollers.

End of lap is fed between feed rolls.

Machine is so constructed that feed rolls advance a certain amount (which may be varied according to length of staple) and stop.

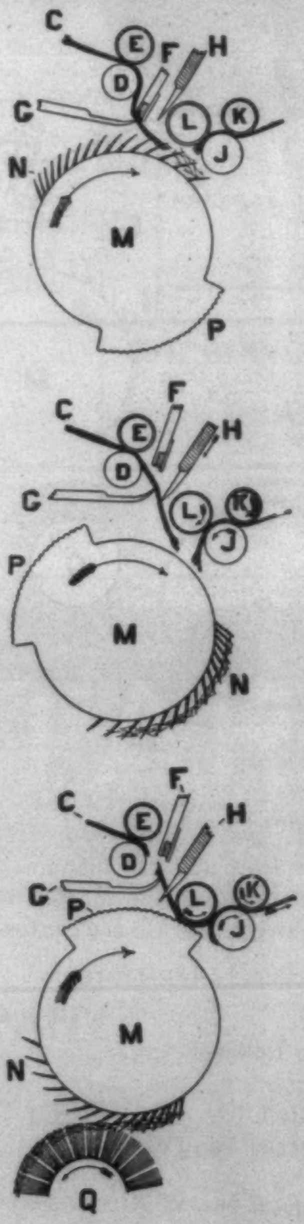


Fig. 13. Heilmann Comber.—Process.

Nipper descends and forces the lap down against cushion plate.

Cushion plate is held by a strong spring, which yields a little, and allows sliver to come within close range of action of comber needles. Either the nipper or the cushion plate is usually provided with a leather or rubber covering to insure a more uniform and less injurious grip on the cotton.

While cotton is held by nipper, the cylinder revolves and the needles comb end of sliver. All rolls are still during this action. Upper part of Figure 13 shows this action.

Nipper rises, releases the lap, and allows cushion plate to raise lap up.

Detaching rolls revolve backward, and bring back the end of the lap that has previously passed through the machine. Feed rolls are standing still during this action.

The central part of Figure 13 shows this action, the roll J having revolved back just sufficient to present end enough to splice.

Nipper comb H descends into the lap.

Rolls L, J and K revolve forward and the bite between L and P breaks the lap at the bite of the rolls D, E. Meantime, the fluted segment of cylinder has come around to roll L, and this roll is lowered to come into contact with it.

The broken piece of lap is thus drawn forward, the rear end combing itself through top comb H, which remains still during this action.

As the broken piece of lap passes on, the front end is lapped over the broken end of the sheet of cotton which preceded it, thus automatically piecing it up to make a continuous sheet of even thickness. Feed rolls are still during this action.

The lower part of Figure 13 shows this action as just beginning.

Rolls J, K, L, feed the sheet on to the position shown in Figure 12, when the same cycle of operations begin again.

(Continued Next Week)

Minimizing Imperfections in Weaving

The July issue of Khaki, published by Harding, Tilton & Co., McCampbell Dept., discusses some of the types of raw cotton, as well as gives an outline, with illustrations, of the processes leading up to and through the spinning and weaving.

"The automatic loom of today is practically a child," says Khaki. "It has reduced the cost of weaving tremendously. A single weaver can run 20 of these machines, sometimes even more. It is not possible for the weaver to watch all of these machines carefully enough to keep them from doing imperfect work, so numerous attachments have been invented and applied to help him at his job. George Leitner, now vice-president of Graniteville, invented a metal finger with a slightly blunted point. It travels along the cloth and if by some chance the loom weaves a thin place, the metal finger drops through and stops the loom until the defect can be repaired. This improvement of his is now universally used.

"The main feature of the modern loom is that it replaces the filling bobbin automatically when it is empty. It is important that it should kick it out before it is quite empty or else the last filling thread lead in will not extend all the way across the piece. That's bad. To avoid this, we have what is known as a feeler. At the end of each stroke of the shuttle, it reaches in and feels the bobbin and when it gets almost empty, drops and throws it out.

"In spite of all that can be done, however, the cloth is subject to minor imperfections. Now we get after even those tiny ones which have eluded all the vigilant processes described. When the cloth leaves the loom, it is passed in front of a strong light and over a blackboard where inspectors go over it carefully. They pick off loose threads, take out slubs and clip off kinky filling. This process is known as 'burling,' and each imperfection is repaired on the spot. Imperfections which are impossible to repair so well that they are not unsightly are either cut out or the entire piece is classed as a 'second.'

"There is no such thing as a perfect piece of cotton cloth. It requires judgment finer than frog's hair to decide what should be classed as a 'second' and what should be labeled a 'first.' Standards in different mills vary a lot, but standards in the industry as a whole have had a tendency to improve. Goods that were classed as 'firsts' 10 years ago, everybody classes as 'seconds' today. The better the mill, the more rigid is its inspection and the higher its standard of grade. The mill standards on this point are of the greatest interest to its customers.

"It is hard to make cotton cloth, but harder still to make it well, for each process is dependent upon the one in front of it. It takes care in selection of the cotton, care is cleaning, care in spinning, care in weaving, care in inspection, and, above all, honesty in every process, to turn out the sort of product which makes good for the manufacturer, the retailer and the consumer who uses it."

Priscilla Mill.
Gastonia, N. C.

Allen D. Keyser	Supt.
W. M. Brown	Carder
J. H. Stillwell	Spinner
R. W. Gray, Jr.	Master Mechanic

NEW
COTTON BOARD

From its very inception the Chicago cotton market has shown a steady growth.

Recognizing this progress, the United States Government has appointed a Board of Cotton Examiners. The new board is now in operation at Houston.

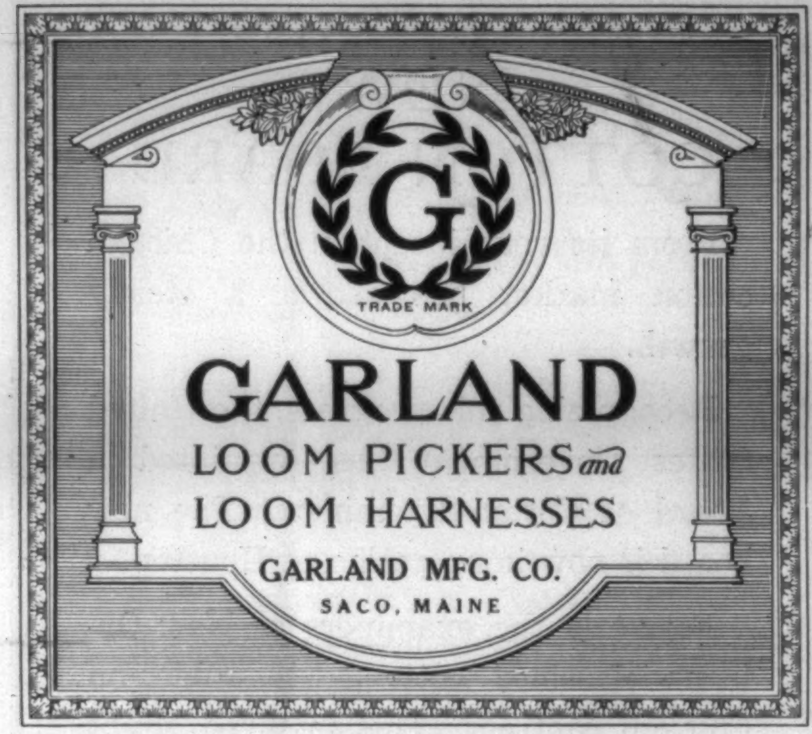
Formerly the examiners at New Orleans classified cotton deliverable on Chicago contract. This involved slight delay and extra expense. Now Chicago's market enjoys all the privileges of New York and New Orleans. The Government's action is another forward stride for the Chicago cotton market.

Chicago's contract, which provides delivery at Houston and Galveston, the biggest cotton exporting point in the world, is daily gaining in favor.

Attractive advantages offered in this contract are outlined in literature that may be had by writing the Cotton Registrar, Chicago Board of Trade.

Minimum cotton contract is 100 bales. Trading hours, 9 to 2; on Saturdays, 9 to 1. Commissions the same as New York and New Orleans. Total warehouse capacity exceeds 1,500,000 bales. Large stocks always at Houston-Galveston basin serve to protect buyer and seller.

CHICAGO
BOARD OF TRADE



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LOOM PICKERS and
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LIBERTY MUTUAL INSURANCE COMPANY
W. R. Pederson, Resident Manager
Carolina National Bank Building, Spartanburg, S. C.
Employers' Liability Insurance, Automobile Insurance, Public Liability Insurance

Cash refunds to policyholders, amounting to nearly $13,000,000 since organization, have realized savings to them of at least 20% of the standard stock company insurance cost.

North Carolina Popular Excursion
TO
WASHINGTON, D. C.
FRIDAY, JULY 31, 1925
VIA
SOUTHERN RAILWAY SYSTEM

THREE WHOLE DAYS AND TWO NIGHTS IN WASHINGTON
ROUND TRIP FARE FROM CHARLOTTE, N. C., $11.00
Special Train Leaves 9:00 P. M., July 31, 1925
Arrives Washington 8:45 A. M., August 1, 1925

Tickets on sale July 31st, good on regular trains to junction points, thence Special Train. Good to return on all regular trains (except No. 37) up to and including Train No. 30, leaving Washington 10:50 P. M., August 3, 1925.

BIG LEAGUE BASEBALL GAMES
Washington Senators vs. Detroit Tigers.
Three games, August 1st, 2nd and 3rd.

A fine opportunity to see Ty Cobb, star fielder of the Detroit Tigers; Walter Johnson, star pitcher, The Senators, and other great stars in action.

This will also be a wonderful opportunity to visit Washington's many public buildings; Arlington National Cemetery and various other points of interest.

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WRITE FOR SAMPLES

The Reduction of Vat Colors

(Continued from Page 14)

indigo equalling 220 pounds indigo 20 per cent paste, is then added with 20 pounds hydrosulphite. The vat should always have this 220 pounds in it, so in order to dye a set of 2,400 pounds, 240 pounds of indigo would be needed; this is divided into 4 parts, and 60 pounds—or 30 gallons of the reduced indigo—is added to each of the two vats, also 9½ pounds hydrosulphite into each vat, or an equivalent of 16 per cent of the amount of indigo used. This addition of hydrosulphite tends to keep the indigo in a reduced state throughout the run, and nothing further is added until the run is completed. The other half of the indigo is added with an additional 9½ pounds hydrosulphite after the first run, and the vats are then ready for the second and last run. When the vat is in proper condition it should stand at 5 degrees Twaddle; the caustic used then in reducing the indigo fed liquor can be cut down to 22 per cent of the amount of indigo.

In plants where a great amount of hydrosulphite is used, they often make a solution of hydrosulphite from SO2 gas. The SO2 gas is slowly fed into an agitator containing a mixture of zinc dust, caustic soda and soda ash, and is then filtered. The main disadvantage with a liquid solution of hydrosulphite is that the product is not stable, and should be used the same day that it is made.

Vat Colors.

After the chemical structure of indigo had been definitely established, attempts were then made to prepare an anthracene analogue; in this way Indanthrene was discovered and put on the market in 1901. This was not the result, however, of a general demand for a series of vat dyes. The discovery of Indanthrene was soon followed by a general line of colors made from an anthraquinone base. Similar progress was made from derivatives of indigo so that a fairly complete range of indigoid base colors were soon available. In 1906 a sulphur analogue of indigo, Thio-indigo, was discovered by Friedlander; this supplied the reds that had hitherto been missing, and made practically a complete range of colors that could be dyed from the vat process. Some are faster in one respect than another, but there are so many colors to choose from today, that one can select a range to fit almost any requirement. The anthraquinone group is best perhaps for all round fastness; these comprise the Indanthrenes, Cibanones, Algols, Ponsols, Akethrenes and the Anthrenes. The indigoid group—though not as fast in general to light and bleaching—are good. These comprise the Cibas, Helindones and Thio-indigoes. The Hydron colors, though dyed similarly in the vat, are of a different structure from either of the above two, being derived from carbazol; they, too, possess good fastness qualities.

Vat colors are divided into three groups for dyeing. Some dye best cold, others warm, from 100 degrees to 120 degrees F., and the hot dyeing group that range from 120 to 160 degrees F. Indanthrene Black is an exception, and dyes best at 176 degrees F.

The reduction is carried out identically in the same manner as with indigo, either in the vat or in a separate container, except that the amounts of caustic may vary according to the type used. The dyeing of the vat colors may be divided into three distinct processes:

(1) The preparation or reduction of the color;

(2) The dyeing itself which takes place in the vat;

(3) The development or oxidation process which produces the true shade.

The cold dyeing colors are the most soluble, and for this reason require considerably less caustic, although the amount of hydro required remains the same. On medium and dark shades, an addition of glauber salt is advantageous in exhausting the bath, and this should always be dissolved and added to the bath in solution. When common salt is used only one-half the amount is required as of glauber salt.

The warm dyeing colors require more caustic than the cold dyeing group, but not as much as those in the hot dyeing group, and only about one-half as much glauber salt.

The hot dyeing group, while requiring a greater amount of caustic than either of the cold or warm dyeing colors, do not require any salt whatever.

When dyeing compound shades, care should be used to select dyestuffs that have the same dyeing properties, that is, where the temperature for dyeing and the amount of caustic required are about the same. Some colors dye well by all three methods, such as: Indanthrene, Anthrene or Ponsol Golden Orange G; Indanthrene, Anthrene or Ponsol Golden Orange RRT; Indanthrene or Anthrene Blue GCD and Ponsol Blue GD; Indanthrene or Algol Olive R.

In dyeing compound shades, where a variety of the different groups of colors must be used, it is advisable to reduce each color separately at its own reducing temperature, then add to the vat and dye at the maximum temperature allowable for the coolest dyeing color used. When using the powder brands it is essential that they be thoroughly wet out in order to get the full value of the dyestuff. This can be done by moistening with alcohol and soluble oil and a thorough stirring; some brands wet out easily by simply adding cold water and agitating under a small steam pipe. The powder brands should be allowed to reduce a little longer than the ordinary pastes. Colors that exhaust equally—especially in long chain warp and piece dyeing—are very essential, as otherwise it is very difficult to prevent uneven dyeings. In some particular cases this cannot be avoided, then care must be taken

(Continued on Page 34)

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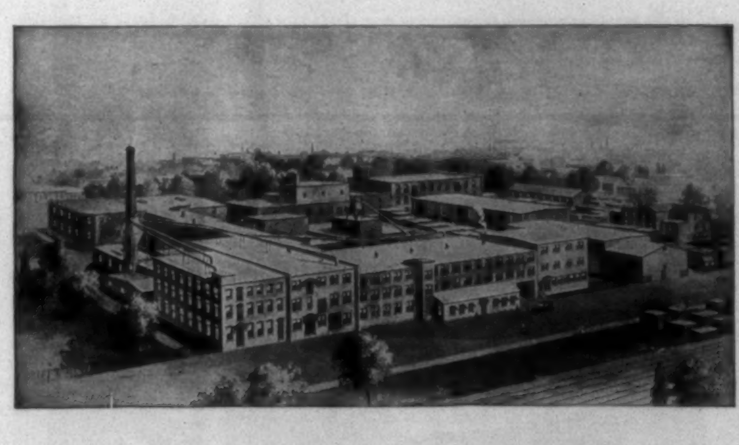

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WHAT WILL THE 1925-26 COTTON CROP BE?

(Table prepared by Geo. M. Rose & Co., Charlotte, N. C.)

The following table shows the out-turn in bales of 500 pounds gross weight—000's omitted—using lint yields per acre of from 120 to 219 pounds. These figures are based on an acreage of 46,448,000 under cultivation June 25, 1925, as shown in Government Report of July 2, 1925:

Lbs. Per Acre	Yield in Bales	Lbs. Per Acre	Yield in Bales	Lbs. Per Acre	Yield in Bales	Lbs. Per Acre	Yield in Bales
120	11,652	145	14,080	170	16,507	195	18,935
121	11,749	146	14,177	171	16,604	196	19,032
122	11,846	147	14,274	172	16,701	197	19,129
123	11,943	148	14,371	173	16,798	198	19,226
124	12,040	149	14,468	174	16,895	199	19,323
125	12,138	150	14,565	175	16,993	200	19,420
126	12,235	151	14,662	176	17,090	201	19,517
127	12,332	152	14,759	177	17,187	202	19,614
128	12,429	153	14,856	178	17,284	203	19,711
129	12,526	154	14,953	179	17,381	204	19,808
130	12,623	155	15,051	180	17,478	205	19,906
131	12,720	156	15,148	181	17,575	206	20,003
132	12,817	157	15,245	182	17,672	207	20,100
133	12,914	158	15,342	183	17,769	208	20,197
134	13,011	159	15,439	184	17,866	209	20,294
135	13,108	160	15,536	185	17,964	210	20,391
136	13,206	161	15,633	186	18,061	211	20,488
137	13,303	162	15,730	187	18,158	212	20,585
138	13,400	163	15,827	188	18,255	213	20,682
139	13,497	164	15,924	189	18,352	214	20,779
140	13,594	165	16,022	190	18,449	215	20,877
141	13,691	166	16,119	191	18,546	216	20,974
142	13,788	167	16,216	192	18,643	217	21,071
143	13,885	168	16,313	193	18,740	218	21,168
144	13,982	169	16,410	194	18,837	219	21,265

Lint Yield Per Acre for the Past 24 Years.

Year	Lbs. Per Acre	Year	Lbs. Per Acre	Year	Lbs. Per Acre	Year	Lbs. Per Acre
1901-02	192	1907-08	178	1913-14	182	1919-20	161
1902-03	190	1908-09	195	1914-15	209	1920-21	178
1903-04	172	1909-10	154	1915-16	170	1921-22	124
1904-05	214	1910-11	170	1916-17	156	1922-23	141
1905-06	186	1911-12	207	1917-18	159	1923-24	131
1906-07	202	1912-13	191	1918-19	159	1924-25	157

Tariff Commission's Rayon Survey

The United States Tariff Commission has recently published a survey of the world rayon or artificial silk industry. This study is quite comprehensive and sets forth a large amount of statistical material concerning this new industry which has not been available in the past. Among other subjects covered are complete tables of monthly rayon prices from 1913, a complete list of rayon producers in the world, tables showing domestic and foreign production and short statistical summaries of the rayon trade of each of the more important countries.

The following table from the survey showing the percentage of rayon consumed in the various textile industries is interesting as showing the increasing consumption of the fiber in its newer uses. This study of rayon is available from the Superintendent of Documents at Washington for fifteen cents.

Percentage of Artificial Silk Production Used in Various Textile Industries. 1913-1924.

Industry	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Knit goods	5	3	5	11	15	17	17	21	29	26	25	14
Hosiery	40	47	65	56	45	40	28	25	23	24	22	23
Underwear, embroidery, etc.	5	2	1	3	2	3	5	11	13	14	12	16
Silk weaving	10	12	5	9	15	18	18	13	12	11	15	18
Braids	5	3	2	3	4	5	13	14	10	11	10	3
Cotton weaving	12	14	15	12	13	13	13	10	9	10	11	15
Tapestry, upholstery	5	2	2	2	2	2	2	2	2	2	2	3
Plush goods	15	15	3	4	3	2	3	3	1	1	2	2

"Hearts of Gold"
BY BECKY ANN (Mrs. Ethel Thomas)

PRICE $1.00

An Interesting Story of Cotton Mill Life

For Sale by Clark Publishing Company, Charlotte, N. C.

Must Popularize Cotton Goods

Charlotte, N. CC.—Carolinas Exposition officials see in the recent pronouncement of Theo. H. Price in favor of a nation-wide campaign to re-establish cotton as an article of dress for men, women and children, an endorsement of the Carolinas idea, which the Exposition management has been emphasizing for the past five years and which is being made more emphatic this year by devoting a large area in the Exposition building to Carolina textiles and in a well ordered campaign to reach the women of the two States by the offering of $1,000 in cash prizes for the best designed dresses coming out of Carolinas homes.

The argument of possibly the nation's greatest expert on cotton in favor of a reversion to cotton fabrics and the more general consumption of these textiles by the American people is of profound interest to the Exposition management, for they see in the campaign launched by Mr. Price the prospect for a renewal of operation on full time of Carolina mills.

Mr. Price shows in an article headed "American Cotton Goods for Americans," published in the July issue of "Cotton and Its Products," that the consumption of cotton has fallen from 28.7 pounds per capita to 27.5 in 1924-25, being a reduction of 1.2 pounds per capita throughout the country. This means that the change of dress by the 4,000,000 men, women and children of the Carolinas alone has cost the Carolinas mills and mill workers the conversion of approximately 10,000 bales of raw cotton into cotton fabrics, entailing a tremendous financial loss both to the operator and operatives and reflected in the commercial life of every community in the two States. If this ratio is extended to apply to the wearing apparel only, the decrease is estimated to be 5 pounds per capita; or 20,000,000 pounds, the equivalent of 40,000 bales of cotton, which Carolina mills should have converted above the amount of cotton actually processed in 1923-24. This for the Carolinas alone, or 1,100,000 bales for the entire country. On the face of it a fad or the caprice of feminine fashion is seriously affecting the welfare of 18 per cent of our population, and threatening an investment estimated to be around $2,200,000,000.

The Price article also reffects the views of Governor Angus W. McLean as expressed before a recent meeting of the North Carolina Cotton Manufacturers' Association at Asheville, in which he urged the cotton manufacturers of the CCarolinas to give immediate and serious attention to the question of helping to popularize their products by advertising through the various effective channels open to mill men, preaching thus not only the merits and desirability of the fabrics adapted to wear, but the resultant economy to the two States.

Early in January of this year, the Carolinas Exposition management determined to institute a systematic campaign of education among women of the Carolinas, and organized a designing and dress making section of the Exposition, offering valuable cash and other prizes to women creators of dress, and working directly through demonstration agents and welfare departments in their communities so as to restore, not only the almost lost art of dress making in the home, but to cause the women to give serious consideration to the loss the Carolinas were sustaining by reason of their decided leaning to the all silk fad.

As a result of this enlarged program by the Exposition, hundreds of women have already agreed to participate in the contest and large numbers of mills manufacturing dress materials have reserved space in the Exposition, not only to show the character and quality of their merchandise but to enable the merchants to get these goods on their counters.

It is very probable that Mr. Price will be invited to the Exposition, where he can give endorsement to the Carolinas idea and enlarge upon his program of "American Cotton Goods for Americans."

Foreign Textile News

Textile Imports Into Siam.

Washington, July 23.—Textile imports into Siam through Bangkok, the principal port of entry for this country, during the first quarter of 1925, totalled approximately $3,186,520, Vice Consul C. C. Hansen advises the Department of Commerce from Bangkok. This is a gain of $374,359 as compared with the corresponding quarter of 1924. The value of the imports for the three months of 1925 was divided as follows: Cotton goods, $2,684,908; linen goods, $8,275; silk goods, $465,108; wool goods, $23,670.

Imports of Oilcloth Into Egypt.

Imports of linoleum, and oilcloth into Egypt during 1924 totalled 378,632 meters valued at approximately $246,888, according to a report from Consul Raymond H. Geist, Alexandria. By far the largest part of these imports was linoleum, the annual importation of oilcloth being valued at about $90,000, of which approximately 15 per cent comes from the United States.

German Textile Shipments to U. S.

Textile shipments to the United States from the Stuttgart consular district during the first quarter of 1925 were valued at $154,108, Vice Consul E. W. Magneson, Stuttgart, reports to the Department of Commerce. Linoleum was the most important item in the 1923 shipments of textiles, the third largest in 1924, and does not appear in the 1925 figures. If this item be eliminated from the totals for 1923 and 1924, the exports during the first quarter of 1925 slightly exceed those in 1924 when calculated on an average basis, and show an increase of approximately 5½ per cent over 1923 and 260 per cent over 1922. The value of cotton goods exports has continuously increased and constituted 30 per cent of the total textile exports during the first three months of 1925. Yarns comprsed over one-half of the value of the cotton goods and lace curtains about one-fourth.

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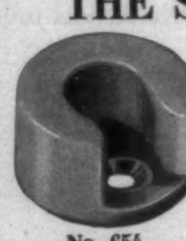
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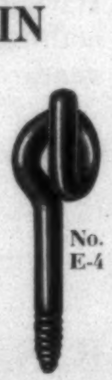
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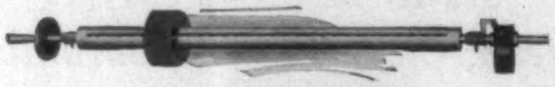
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Puro Sanitary Drinking Funtain Co
HAYDENVILLE, MASS.

Research in the Cotton Industry

(Continued from Page 8)

that a very good way of preparing yarns for visual inspection is to knit them into a piece of plain work on a simple hand machine. The great instrument for the examination of faults in yarns and fabrics, however, is the microscope. With its aid, assisted by photography for recording purposes, a wide range of faults has been investigated at the Shirley Institute and ascribed to definite causes which otherwise could scarcely have been ascertained. An interesting case was that of a fabric with artificial silk weft showing a band of distinctly different lustre from the rest. A transverse section showed under the microscope the flattened filaments of viscose in one portion and the round threads of cuprammonium silk in the other. One odd pirn of the wrong type of rayon had found its way into the loom.

Reduction of Vat Colors.

(Continued from Page 31)

in the feeding on to be sure that more of the quick exhausting dyestuff is added than the slower one.

In the dyeing of short chain warps, little difficulty is met with as regards leveling, especially if the yarn is given 4 runs. The dyestuff should be reduced in four equal portions, and the first portion added to the vat which has previously been sharpened with 1 pound of caustic and 12 ounces of hydrosulphite per 100 gallons. At the end of the second run, a very good idea can be formed as to whether an addition of color will be needed to procure the proper shade; or, an end may be dipped in the vat before beginning the third run, to see whether the depth of shade will be sufficient. Unfortunately, there is no exact method of determining just how much hydrosulphite is left in the bath after the first run, and this can only be estimated; the alkalinity is also hard to ascertain on account of the coloring matter in the bath.

Hot dyeing colors usually require 4 to 5 pounds of caustic per 100 gallons of liquid used; the hydrosulphite required, varies from 1 to 1½ pounds for light shades of 10 per cent and less, 2 to 2½ pounds for medium shades, and for dark shades of over 20 per cent up to 4 pounds per 100 gallons. The warm and cold dyeing groups only require one-half the above amounts of caustic, or from 1½ to 2 pounds of caustic per 100 gallons, the hydrosulphite used being about the same. The warm dyeing group needs from 10 to 25 pounds of glauber salt, previously dissolved, depending upon the depth of shade desired, and the cold dyeing group about twice this amount of salt. Water is a most important item in the dyeing of the vat colors, and should be as soft as possible. Hard water should be corrected by an addition of soda ash before adding any color to the bath; any scum formed should be carefully skimmed off.

Oxidation and Development.

Almost equal in importance to the reduction is the oxidation and development of the dyeing, for only in this way can the true shade be brought out. In warp or skein yarn dyeing, where the air can easily get to all parts of the lot there is little or no difficulty with the oxidizing but in tube or beam dyeing machines it is advisable to add a small amount of perborate of soda to the first rinse; the oxygen evolved will decompose the free hydrosulphite left in the yarn and thus tend to prevent streaks; or a weak solution of sulphuric acid may be used instead and thus by neutralizing any free caustic the same results are obtained. It is very essential that the dyeings be given a thorough thorough boiling in a soap solution.

Dyeing Skein Yarn.

In the dyeing of skein yarn, the yarn should be thoroughly wet out by boiling in a kier, or some other suitable method, and hydroextracted; then put onto straight wooden sticks. Care should be taken that each stick contains the same amount of yarn. The yarn should be dyed at the rate of 240 gallons to 100 pounds of yarn, or a ratio of 20:1. The bath should be previously sharpened with 1 pound each of caustic and hydrosulphite. The dyestuff is best reduced in a separate container; a barrel is perhaps the cheapest and most convenient, as separate ones can be kept for each color. The barrel is filled with water heated to the required temperature, and the caustic, previously dissolved, stirred in; the color is then added and the contents of the barrel well stirred. Lastly, the hydrosulphite powder is slowly strewn in and then let stand for about 15 minutes, until the reduction is completed; this can easily be told by the color and clarity of the solution. The reduced color is then strained through a fine sieve or cotton cloth into the dye vat, previously heated to the required temperature; the bath is then well raked or stirred and the yarn should be turned as frequently as possible to insure level dyeing.

In dyeing pale shades, or when using dyestuffs that have a tendency to exhaust too rapidly, thus causing unevenness, an excess of caustic and an addition of 5 per cent of animal glue, well dissolved, helps considerably to retard the dyestuff.

Rayon Manufacture in Denmark.

A large Danish clothing and carpect factory has been conducting experiments in the manufacture of rayon, according to advices received by the Department of Commerce from its Copenhagen office. Special machines have been installed and it is hoped that a product can be manufactured which will compete favorably with foreign rayon at present on the Danish market. According to plans, a separate plant capitalized at 1,000,000 crowns (crown equals $0.20 at current exchange) will be built with a daily production capacity of 300 kilos. The rayon at present sold on the Danish market is chiefly of English origin.

Clark's Cotton Records

Government Reports.

	1925	1924.	1923.
Acreage this season	40,403,000	38,709,000	34,016,000
Indicated crop July 25	12,144,000	11,412,000	11,065,000
Indicated crop middle of July	11,934,000	———	———
Indicated crop end of July	12,351,000	11,516,000	11,449,000
Indicated crop middle of Aug.	12,956,000	———	———
Indicated crop end of Aug.	12,787,000	10,788,000	10,575,000
Indicated crop middle of Sept.	12,596,000	———	———
Indicated crop end of Sept.	12,499,000	11,015,000	10,135,000
Indicated crop middle of Oct.	12,675,000	———	———
Indicated crop end of Oct.	12,816,000	———	———
Indicated crop middle of Nov.	12,992,000	———	———
Indicated crop end of Nov.	13,153,000	———	———
Ginned to Oct. 1st	4,527,671	———	———
Ginned to Oct. 18th	7,600,826	6,415,145	6,078,321
Ginned to Nov. 14th	11,163,400	———	———
Ginned to Dec. 1st	12,225,000	———	———
Ginned to Jan. 16, 1925	13,308,037	———	———
Ginned to March 20 (final report)	13,618,751	———	———
Carryover beginning cotton year	2,319,000	2,573,000	4,879,000

Cotton Exports.

Following is a comparison of the exports by months in running bales, including linters:

	1924-25.	1923-24.	1922-23.
August	277,641	244,415	272,808
September	737,010	689,435	378,390
October	947,556	781,722	798,664
November	1,306,000	770,002	858,337
December	1,076,000	845,581	607,853
January, 1925	1,076,000	546,253	473,436
February	818,838	482,146	359,657
March	734,697	332,168	318,210
April	472,555	320,774	259,984
May	330,967	326,357	160,368
June	———	230,979	214,851
July	———	211,633	171,469
		5,772,000	4,864,027

American Consumption of All Kinds of Cotton, Excluding Linters.

(In running bales, 000s omitted.)

	1924-25		1923-24		1922-24	
	Per Month	Per Season	Per Month	Per Season	Per Month	Per Season
August	357	357	492	492	526	526
September	435	792	484	975	494	1,020
October	530	1,322	542	1,517	534	1,554
November	492	1,814	532	2,049	579	2,133
December	533	2,347	462	2.510	529	2,663
January 3	589	2,936	577	3,088	610	3,273
February, 1925	550	3,486	508	3,595	567	3,840
March	582	4,068	484	4,079	624	4,464
April	597	4,665	480	4,559	577	5,041
May	531	5,196	414	4,991	621	5,661
June	493	5,689	350	5,341	542	6,203
July	——	——	347	5,688	463	6,666

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55 Leonard Street New York
Print Cloths, Twills, Pajama Checks, Sheetings, Combed Peeler Yarns

Cotton Goods

New York.—The demand for cotton goods last week was not quite so active as during the previous week. There was practically no change in prices, with quotations holding steady or slightly higher where they had been unusually low. Prices on wide sheetings were advanced by five per cent by shortening discounts. Quotations on print cloths, sheetings and drills held steady. Print cloths have been well sold for the next six weeks and stocks of sheetings are low after the recent active sales.

There was a moderate demand for printed goods after prices were recently revised upward. Prices on some of the 4-4 bleached goods were increased by a quarter cent. Sales of ginghams were confined chiefly to small lots. Trade in wash goods has slowed up due to the lateness of the season.

The cotton goods markets seemed to have accepted the prospects for a smaller cotton crop and to have become more interested in buying coarse goods which require large amounts of cotton. Buyers are not yet willing to pay the new higher prices without active resistance, but an increasing amount of business in the coarser fabrics was noted.

All indications show that the cotton mills intend to use a tremendous amount of rayon for the fall and spring seasons and mills making wash goods and those engaged in finishing are very much encouraged over the outlook.

Prices were advanced on several constructions of print cloths, sheetings and drills, and some houses would make no offerings at old figures on anything. Inquiries were constant, especially from users of coarse goods, and bids were usually unworkable because of being on the lower levels prevailing early in the week. Cloth traders are taking the Government low crop much more seriously.

Print cloths sold at 12½c for 80 squares, 10½c for 68x72s, 7⅝c for 6.60s and 7 5-16c for 7.15s. For 38½-inch 64x60s 5½c was paid for September deliveries and 9⅝c was the best possible on spots.

Sheetings sold at 9½c for 4-yard 37-inch goods in a few places and ⅛c less was generally declined. For 4.70s 8½c was paid. For 3.60s nothing better than 11c could be worked through. Bids of 6⅞c for 6.15s were declined in several places. For 3.50 drills 10¾c was paid. For 3-yard 30-inch 12¾c was paid. In 4.37 sateens the markets were strong at 12c to 12½c.

The call for coarse goods at old prices was persistent. Single filling duck and wide sheetings of the heavier grades were in good call in several places and some trading was done. Some business was done on osnaburgs.

Further business was done in the tire fabric market last week. The tire trade bought smaller quantities than in the previous two weeks, the quantity, however, being estimated as above a million pounds of carded peelers and Egyptian upper cords suitable for high pressure shoes and low pressure oversized and balloon tires.

Somewhat better inquiry for staple furnished goods was reported in a few centers as a result of the cotton advances. There has been further fair business in bleached goods and, reflecting the gray goods situation, prices were put up one-quarter of a cent a yard in two important centers, placing 64x60s back filled goods at 11⅛ cents. On the other hand, it was still reported possible to do 11¼ cents in one center, up to the close. In this instance, September deliveries were the best offered.

The Fall River cloth market was very quiet throughout the first half of the week, but upon the announcement of the Government's estimate of the cotton crop trading became quite active, and it is estimated that the week's sales will total well up to 100,000 pieces.

Considerable of the trading was done at an advance in prices varying from ¼c to ⅛c over last week's quotations. Some mills are holding out for an advance of a full half cent for 4.37 sateens, which have been selling freely at 12c. The trading has been largely in sateens and twills, though there has been good inquiry for nearly all constructions.

Most of the sales have been for spot or nearby delivery, mills declining to contract for future delivery at present prices.

Cotton goods prices were as follows:

Print cloths, 28-in., 64x64s	7⅛
Print cloths, 28-in., 64x60s	6⅞
Print cloths, 27-in., 64x60s	6⅝
Gray goods, 38½-in., 64x64s	10
Gray goods, 39-in., 68x72s	10½
Gray goods, 39-in., 80x80s	12½
Brown sheetings, 3-yard	13½
Brown sheetings, 4-yard	10½
Brown sheetings, stand.	14½
Ticking, 8-ounce	23½
Denims	19
Staple ginghams, 27-in.	11½
Kid finished cambrics	9½a10½
Dress ginghams	13½a17½

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LESSER-GOLDMAN COTTON COMPANY
OF ST. LOUIS, MO.
P. H. PARTRIDGE, Agent, Charlotte, N. C.
Extra staples, and good 1 1-16 and 1⅛ cotton from Arkansas, Oklahoma, and Texas, and Memphis territory

The Yarn Market

Philadelphia, Pa. — While yarns prices were advanced last week, the total volume of business continued small. Buyers have yet to show interest in yarns beyond their nearby requirements. Inquiry was somewhat broader and day to day sales were fairly good.

The higher prices were named following the Government crop report and further advances are anticipated unless cotton slumps suddenly.

The Gaston county combed yarn mills reported a light demand for the week. Inquiries were considerably more numerous but most mills declined to accept business at the prevailing price levels and expect further advances in prices.

One encouraging feature of the week was the report that a number of houses that have been selling the market short have withdrawn their prices which have been discounting quotations for some time. The absence of short selling is expected to make for more stabilized prices.

Stocks of yarns both in this market and at the mills are reported at a very low point.

Aside from the advance in prices, there was little change in the yarn situation as a whole during the week. Hand to mouth buying continued the rule. The cotton situation is being watched with a great deal of interest, but so far the indications of a smaller crop have had little effect toward creating a demand for yarns.

Prices in this market were published as follows:

Southern Two-Ply Chain Warps.

2-ply 8s	39 a..	2-ply 26s	45 a..
2-ply 10s	40 a..	2-ply 30s	46½a47
2-ply 16s	41 a..	2-ply 40s	57 a..
2-ply 20s	42 a..	2-ply 50s	68 a..
2-ply 24s	44 a..		

Southern Two-Ply Skeins.

8s	38 a..	40s	56 a..
10s to 12s	38½a39	40s ex.	60 a..
14s	39 a40	50s	68 a..
16s	41 a..	60s	72 a74
20s	42 a..	Tinged Carpet—	
24s	44 a..	3 and 4-ply	35 a..
26s	44½a..	White Carpet—	
30s	46 a..	3 and 4-ply	37 a..
36s	54 a..		

Part Waste Insulated Yarn.

6s 1-ply	34 a..	12s, 2-ply	37 a..
8s, 2, 3 and 4-ply	35½a..	20s, 2-ply	40 a..
10s, 1-ply and 3-ply	36 a..	26s, 2-ply	44 a..
		30s, 2-ply	45 a..

Duck Yarns.

3, 4 and 5-ply		3, 4 and 5-ply—	
8s	37½a..	16s	40 a42
10s	38½a..	20s	42 a43
12s	39 a40		

Southern Single Chain Warps.

10s	38 a..	24s	43 a..
12s	39 a..	26s	44 a..
14s	37 a..	30s	46 a..
16s	40 a..	40s	55 a..
20s	41 a..		

Southern Single Skeins.

6s to 8s	38 a..	22s	41 a..
10s	39 a..	24s	43 a..
12s	39½a..	26s	43 a..
14s	38 a..	30s	45 a..
16s	40 a..		

Southern Frame Cones.

8s	38 a..	22s	42 a41
10s	38 a..	24s	43 a..
12s	38½a..	26s	44 a..
14s	38½a..	28s	45 a..
16s	39 a..	30s	47 a48
18s	40 a..	30s tying in	45 a44½
20s	41 a..	40s	58 a..

Southern Combed Peeler Skeins. Etc.

2-ply 16s	56 a60	2-ply 50s	80 a..
2-ply 20s	58 a62	2-ply 60s	87½a90
2-ply 30s	65 a67	2-ply 70s	1 02½a..
2-ply 36s	70 a75	2-ply 80s	1 12½a1 15
2-ply 40s	75 a80		

Southern Combed Peeler Cones.

10s	48 a49	30s	60 a..
12s	49 a50	32s	62 a..
14s	49½a50½	34s	65 a..
16s	52½a..	36s	67 a..
18s	51 a52	38s	69 a..
20s	52 a..	40s	70 a..
22s	53 a..	50s	75 a..
24s	56 a..	60s	87½a90
26s	56½a..	70s	97½a..
28s	57 a..	80s	1 10a..

Eastern Carded Peeler Thread-Twist Skeins.

20s, 2-ply	50 a..	36s, 2-ply	63 a..
22s, 2-ply	51 a..	40s, 2-ply	65 a..
24s, 2-ply	56 a..	45s, 2-ply	70 a..
30s, 2-ply	59 a..	50s, 2-ply	75 a..

Eastern Carded Cones.

10s	41 a..	22s	44 a..
12s	42 a..	26s	51 a..
14s	43 a..	28s	53 a..
20s	47 a..	30s	55 a..

Southern Yarn Bulletin.

The weekly bulletin of Southern Yarn Spinners' Association says:

"Eastern yarn markets report practically no business except in small lots for immediate delivery. Both consumers' and dealers' stocks are reported to be at a minimum. The level of prices remain unchanged. Spinners' prices at an advance over local market quotations. Demand is at a standstill.

"Mill stocks are reported to be small and curtailment more extensive than is accredited. Such mills as are operating are running only on orders."

Hungarian Textile Production.

Production of textiles in Hungary, both semi-manufactured and finished goods, amounted during the past year to approximately 300,000,000 gold crowns (gold crown equals approximately $0.20), according to statements given out by the Association of Hungarian Textile Manufacturers, Assistant Trade Commissioner E. A. Weldon, Vienna, advises the Department of Commerce. This sum constitutes 10 per cent of the total production of all Hungarian industries. The domestic production supplies 56 per cent of the demands for consumption. Approximately 32,000 workmen are employed in this country.

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the fibres of the yarn—cotton, woolen or worsted whichever it may be—and prevents waste of good materials by eliminating flyings.
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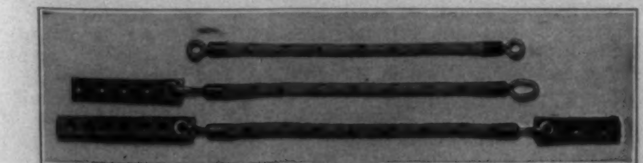

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E. H. JACOBS MFG. CO., Danielson, Conn. Established 1869
Southern Factory Branch, Charlotte, N. C.

Want Department

Wanted

Position by superintendent with practical experience on white goods, denims, chambrays and market yarns. Address S. E. T., care Bulletin.

Wanted

Position as electrician for textile plant or power house. Have had several years' experience on motors in cotton mills. Have also had experience in repair shops rewinding motors. Thirty years old and married. Address N. C. T., care Bulletin.

Wanted

Cotton yarn salesmen to sell converted Rayon silk yarns as side line for large N. Y. House. One who has a large following among the cotton and hosiery mills. State territory and commission expected. Box R. S. 464, 206 Fitzgerald Building, New York City.

Wanted

Position as overseer of carding and spinning, winding, spooling, warping. 20 years' experience. Age 44, married. 7 years with present company. References. Address T. G. H., care Southern Textile Bulletin.

Help Wanted

We need one fixer for 70 Lowell looms on light weight sheetings and one for 80 Staffords, same kind of goods. Mill running 55 hours week regularly. Address P. J. Long, Overseer Weaving, Bonham, Texas.

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Oils, Dyes, Intermediates, solvents, gums glues, waxes, and any item of a chemical nature.

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Wanted to Purchase

Carpet Yarn Spinning Mill, 5,000 to 8,000 spindles, manufacturing 8-1, 8-2, 8-3 and 8-4 ply yarns suitable for carpet trade put on tubes and skeins. Must be going concern, modern and reasonable in price. Prefer plant in North Carolina but would consider other locations. Address C. K. Taylor, P. O. Box 187, Magnolia, Miss.

$25.00 REWARD will be paid for the apprehension or such information that will lead to the apprehension of Earnest L. McCoy. Height about 5½ ft., weight about 140 lbs., dark complexion and black hair. Left Hickory on or about the 22nd day of June, 1925, wearing a dark blue striped suit, brown hat, and is an employee of spinning mills. Superintendents and overseers take note. Wire Chief Police, Hickory, N. C., or John C. Stroupe, Hickory, N. C.

Wanted to Purchase

Good Model E Warp Tying-in Machine. Address "Warp," care Southern Textile Bulletin.

For Sale

Model K Barber Warp-Tying Machine (for tying warps behind looms), reconditioned, practically as good as new. Address "Bargain," care Southern Textile Bulletin.

Notice

Will party who wishes to exchange Model E (large) Barber Warp-Tying Machine for Model K (to tie behind looms) please address "Model E," care Southern Textile Bulletin.

Wanted

Position as overseer or second hand of spinning. 18 years in spinning room. Will graduate in carding and spinning, I. C. S. course, this month. Can make change Aug. 1st. Am now employed but have reasons for wanting to change. Address I. C. S., care Southern Textile Bulletin.

Book Salesman Wanted

We want to get in touch with a salesman, woman preferred, who can sell "The Better Way," "Hearts of Gold," "Will Allen Sinner" and other books of Becky Ann (Mrs. Ethel Thomas) in the cotton mill villages.

The stories of Becky Ann deal with cotton mill life and are very popular in the mill villages. They sell for $1.00 each.

CLARK PUBLISHING COMPANY
Charlotte, N. C.

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1—40" Kitson 2 Beater Breaker with automatic feeder.
2—40" Kitson 1 Beater Intermediate.
2—40" Kitson 1 Beater Finisher.
1—38" Kitson Automatic Feeder.
1—Kitson Card and Picker Waste Cleaner.
32—40" Lowell Cards, 12" coilers, 27" doffers.
48—Deliveries Whitin Drawing, metallic rolls.
3—80 spindle Providence Slubbers, 12x6.
6—96 spindle Woonsocket Intermediates, 10x5.
4—152 spindle Woonsocket Speeders, 8x4.
3—160 spindle H. & B. Speeders, 7x3½.
10—216 spindle Whitin Spinning Frames, 3½" guage, 7" traverse, 2" rings.
Roving Cans, 12" and 10"x36".
12" Slubber Bobbins.
10" Intermediate Bobbins.
7" and 8" Speeder Bobbins.
8" Spinning Bobbins with Skewers.
Roving Cars, Platform Scales, Trucks, Roving and Yarn Reels and Scales, Card Grinders, 5 extra Sets Flats, also Card Clothing Machine.
1—Whitin Gear Cutter.

MACHINE SHOP

1—16"x8' bed Screw Cutting Lathe.
1—18" Barnes Drill Press.
1—10"Speed Lathe.
1—Double Emery Stand.

All sizes double and single belts, pulleys, hangers, couplings and shafting. Also 365 H. P. Motors in Westinghouse and General Electric, sizes 10 H. P. to 50 H. P., all 220 volt, 2 phase, 60 cycle.

Machinery and equipment must be moved in sixty to ninety days. Available immediate shipment, prices most attractive. Machinery modern and in excellent condition.

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